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Locus of control, self-efficacy, and spiritual coping style among members of alcoholics anonymous

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LOCUS OF CONTROL, SELF-EFFICACY, AND SPIRITUAL COPING STYLE AMONG MEMBERS OF ALCOHOLICS ANONYMOUS

A clinical dissertation submitted in partial satisfaction

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by

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This clinical dissertation, written by

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under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PSYCHOLOGY

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DEDICATION

To my husband, Ed, who supported me through this process in every way imaginable, with an unwavering belief in my ability to accomplish this goal. I love you and I am so grateful to have you as my partner in life. To my sister, Stephanie, for your love, for your faith in me, and for the sacrifices you made in order to be present during both my preliminary oral exam and my final defense. Your presence meant the world to me. To my parents, Paul and Jeanne, for always encouraging me, for emphasizing the importance of education throughout my life, and for the sacrifices you made in order to ensure that all of your daughters received the best education. To my sisters, Valerie and Sharon, for your love, your support, and your encouragement over the years. Finally, to my beautiful Taz who kept me company, purring on my lap during long days at the computer. Your love and companionship continue to radiate from heaven.

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VITA

MICHELLE D. LINQUIST

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ABSTRACT

Alcoholics Anonymous (AA) is an organization that seeks to help its members achieve recovery from alcoholism through participation in the AA fellowship and adherence to a 12 step program. Reliance upon a Higher Power is a key tenet of AA, which could suggest a more externally-oriented locus of control. However, research has shown that a more internally-oriented locus of control is associated with longer sobriety. Abstinence self-efficacy and positive religious coping have also been associated with enhanced recovery from substance use disorders. The purpose of this study was to examine locus of control, abstinence self-efficacy, and spiritual coping style in a community sample of AA members. The relationship of locus of control and abstinence self-efficacy to length of sobriety was also examined. The participants were 76 subjects who were recruited from AA meetings in Northern California and the state of Washington. There were 43 females (57%) and 33 males (43%), with a mean age of 39.29 years, and a mean of 3.41 years of sobriety. Participants completed a research questionnaire regarding demographic data, AA involvement, addiction history, and religious and spiritual beliefs. They also completed the Drinking-Related Locus of Control Scale (DRIE), the Alcohol Abstinence Self-Efficacy Scale (AASE), and the Brief RCOPE, a measure of religious coping style. The results indicated that this sample endorsed a relatively internal locus of control, a fairly high level of abstinence self-efficacy, and a more positive than negative religious coping style. Support was found for several of the researcher's hypotheses: internal locus of control and positive religious coping were associated with higher abstinence self-efficacy; positive religious coping was associated with internal locus of control; and internal locus of control and higher levels of abstinence self-efficacy were associated with longer sobriety. Negative religious coping was not associated with lower abstinence self-efficacy, nor did it correlate with external locus of control. The results

suggested that belief in a Higher Power and participation in AA were not incompatible with the constructs of internal locus of control and abstinence self-efficacy for this sample. Other findings, clinical implications, limitations, and suggestions for future research are also explored.

Chapter 1

Review of the Relevant Literature

Introduction

Alcoholism is a global problem that negatively impacts the physical, mental, emotional, social, spiritual, occupational, and financial well-being of individuals who suffer from this addiction, frequently resulting in catastrophic consequences. It affects men and women of all ages, ethnic backgrounds, religions, occupations, and income levels. According to the Centers for Disease Control and Prevention (2010), 14,406 people died from alcoholic liver disease and 23,199 people died from alcohol-induced deaths, excluding accidents and homicides, in 2007. In addition, the Centers for Disease Control and Prevention (2010) report that "excessive alcohol use is the third leading lifestyle-related cause of death for people in the United States each year." Alcohol use among underage people is particularly problematic, and alcohol is used more prevalently among teens than tobacco and illegal drugs. Underage drinkers consume 11% of all of the alcohol consumed in the United States each year (Centers for Disease Control and Prevention, 2010).

Alcohol Abuse and Alcohol Dependence

Moderate alcohol use is a socially acceptable activity in many facets of society in the United States and other cultures around the world. Most people do not have problems controlling their amount or frequency of alcohol consumption. However, alcoholics display a pattern of alcohol consumption that continues despite its detrimental effects upon their lives. Within the psychological community, alcoholics are generally defined as people who meet the criteria for Alcohol Dependence that are outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). According to the DSM-IV (American Psychiatric

Association, 1994), Substance Dependence involves the following, and in this case the specific substance is alcohol:

> The essential feature of Substance Dependence is a cluster of cognitive, behavioral, and physiological symptoms indicating that the individual continues use of the substance despite significant substance-related problems. There is a pattern of repeated self-administration that usually results in tolerance, withdrawal, and compulsive drug-taking behavior (p.176).

Three of the seven criteria for Alcohol Dependence must be met during a 12-month period of time in order to warrant this diagnosis. Tolerance and withdrawal are the first two criteria. They are physiological processes that may occur with Alcohol Dependence, although "neither tolerance nor withdrawal is necessary or sufficient for a diagnosis of Substance Dependence" (American Psychiatric Association, 1994, p.178). Tolerance is the need for increasingly greater amounts of alcohol in order to achieve the desired level of intoxication, or a significantly reduced effect from repeated use of the same amount of alcohol. Withdrawal refers to the negative physiological and psychological consequences of the depletion of alcohol in the body, following excessive and prolonged alcohol use. Symptoms of alcohol withdrawal may be minor to severe, and they may include sweating, increased heart rate, insomnia, hand tremors, nausea and vomiting, anxiety, delirium, and grand mal seizures (American Psychiatric Association, 1994).

The remaining criteria involve the compulsive use of alcohol (American Psychiatric Association, 1994). For example, the individual may consume more alcohol than was originally intended, or may attempt repeatedly to reduce alcohol consumption without success. In addition, he or she may ignore important life activities and obligations due to his or her alcohol use, or

spend excessive amounts of time obtaining, using, or recovering from the effects of alcohol use. Finally, the individual may continue drinking despite knowledge of the negative physical or psychological impact that alcohol has on his or her life.

"Unlike the criteria for Substance Dependence, the criteria for Substance Abuse do not include tolerance, withdrawal, or a pattern of compulsive use and instead include only the harmful consequences of repeated use" (American Psychiatric Association, 1994, p. 182). In order for a diagnosis of Alcohol Abuse to be warranted, the individual must exhibit significant impairment, due to his or her alcohol use, in one of the following areas during the last 12 months: completion of major life roles and responsibilities at work, school, or home; repeated use of alcohol in situations that are physically dangerous; repeated alcohol-related legal problems; and repeated alcohol-related social or interpersonal problems. (It should be noted that the DSM-IV was in use when this literature review was prepared, and the DSM-V was still in publication when this manuscript was finalized. Therefore, the definitions of alcohol abuse and dependence contained in the present document do not incorporate any changes of conceptualization that may be introduced with the DSM-V).

Individuals who struggle with alcohol abuse and dependence often create enormous problems for themselves, their families and friends, and society as a whole. The question of how to treat this addiction has been studied in research laboratories, hospitals, and clinical practices for decades, and many treatment modalities currently exist. One of the most popular solutions available for alcohol addiction is Alcoholics Anonymous (AA). Much debate has occurred regarding the use and effectiveness of this self-help group, particularly regarding its emphasis on God or a Higher Power. The purpose of the present study was to examine the literature regarding AA and its efficacy, to further explore the spiritual beliefs of AA members, and to

better understand how the element of spirituality is involved in the recovery process among AA members. In addition, locus of control and self-efficacy, two constructs that are closely related to spirituality and the AA program, were examined.

Some of the research reviewed in this paper is comprised of subjects who were assessed and diagnosed with Alcohol Dependence by a psychologist or other trained professional. This is particularly true for studies that were conducted in conjunction with large-scale, highly funded projects, such as Project MATCH, a nationwide series of longitudinal studies conducted to explore a variety of treatment approaches for alcoholism. However, many studies do not include formal DSM-IV diagnoses and rely more on self-report from subjects, or subjects' self-identification as "alcoholic" through their affiliation with groups such as AA. The present literature review is comprised of studies in which structured, formal diagnoses were included, as well as studies that were not based upon DSM-IV diagnostic criteria. However, it should be noted that the subjects in these studies experienced significant alcohol-related problems, which prompted them to seek help in some fashion, and it is important to include any distressed individuals, regardless of whether or not they have been formally diagnosed according to DSM-IV criteria.

Alcoholics Anonymous

Given the alarming statistics about the destructiveness of alcohol addiction to the individual, as well as its costs to society as a whole, it is imperative that research efforts focus on finding the most effective treatments for alcohol dependence. However, research on the effectiveness of various approaches indicates that there is no one standard effective treatment for alcoholism, and the rates of relapse after treatment are very high (Goodwin, 2007). One of the most popular approaches to dealing with alcohol problems in the United States is Alcoholics

Anonymous (AA), a self-help fellowship of alcoholic men and women who engage in a process of recovery from alcohol addiction using social support, shared experiences, service to others, and following the 12 steps of AA.

Alcoholics Anonymous, founded in 1935, is a non-professional organization consisting of groups of men and women throughout the world who meet to support one another in sobriety, and to study and follow the 12 steps and 12 traditions of AA (Alcoholics Anonymous, 2008). AA states that the only requirement for membership is a desire to stop drinking, and AA does not involve itself in press or publicity in order to preserve the anonymity of its members and to remain focused on the process of recovery. AA believes that self-centeredness is at the root of alcoholism. "Thus, part of AA's approach to healing is to attempt to instill humility and minimize egotism in its members. To this end, AA explicitly discourages members from relying on reason and willpower to resolve difficulties" (Humphreys & Kaskutas, 1995, p. 235).

The 12 steps of AA are based upon a belief in a "Higher Power" and a belief that the desire to drink alcohol will be alleviated through that higher power. A brief explanation of these steps will familiarize the reader with the belief system within AA.

Step one states, "we admitted we were powerless over alcohol-that our lives had become unmanageable" (Alcoholics Anonymous, 2008, p.21). This first step requires the individual to admit that he or she cannot control his or her drinking, and that drinking has caused devastating consequences within the person's life. Alcoholics Anonymous (2008) states that "the principle that we shall find no enduring strength until we first admit complete defeat is the main taproot from which our whole Society has sprung and flowered" (p. 22). It requires the individual to acknowledge that he or she has "hit bottom," to admit helplessness, and to surrender to the remaining 11 steps.

The second step states, "came to believe that a Power greater than ourselves could restore us to sanity" (Alcoholics Anonymous, 2008, p. 25). The AA text states that members need not define their higher power as "God," and that even agnostics and atheists can adhere to this step. It is suggested that the power of the AA group itself can be used as a higher power if an individual is not comfortable with the concept of "God." However, it is important to note that the AA literature does use and emphasize the word "God" repeatedly throughout its texts, which may cause some discomfort to readers who do not readily embrace the concept of God or a higher power.

Step three states, "made a decision to turn our will and our lives over to the care of God as we understood Him" (Alcoholics Anonymous, 2008, p. 34). This step requires a complete reliance on "God's will" instead of self-will, and encourages active willingness rather than passive reflection or faith. According to the literature, willingness to set aside one's own will is the key to the third step.

Step four in AA is, "made a searching and fearless moral inventory of ourselves" (Alcoholics Anonymous, 2008, p. 42). The premise is that one's problems and unhappiness in life stem from natural instincts (i.e., instincts for sex, emotional and financial security, and standing in the community) that have been given too much power and have taken over one's life, causing pain to oneself and to others. The goal of this fourth step is to honestly and meticulously examine one's "liabilities" or "defects of character" and write them down on paper.

The fifth step states, "admitted to God, to ourselves, and to another human being the exact nature of our wrongs" (Alcoholics Anonymous, 2008, p. 55). This step requires the individual to share the "defects of character" that were discovered in step four with another human being. AA claims that this step will end feelings of isolation, and will bring humility and

the ability to give and receive forgiveness. The individual may divulge this information to his or her sponsor, clergyman, physician, or even a stranger depending upon his or her confidence in the person.

"Were entirely ready to have God remove all these defects of character" is the sixth step (Alcoholics Anonymous, 2008, p. 63). This step refers to the willingness to allow God to remove one's character flaws (i.e., the natural instincts that have been given too much power), in the way that God has removed the desire for alcohol. According to the text, this step requires the individual to work towards perfection, yet acknowledges that total perfection is not possible, and that this step is an ideal to which one should aspire.

Step seven states, "humbly asked Him to remove our shortcomings" (Alcoholics Anonymous, 2008, p. 70). The basis of step seven is humility, which in the AA text is defined as "a desire to seek and do God's will" (p. 72). It is a change in attitude from self-centeredness and fear towards thinking of others and of God.

The eighth step entails, "made a list of all persons we had harmed, and became willing to make amends to them all" (Alcoholics Anonymous, 2008, p. 77). This step requires the individual to go beyond what he or she has discovered in step four to make a list of the specific instances when he or she inflicted physical, mental, emotional, or spiritual pain upon others. It also involves forgiveness of oneself for these actions, as well as forgiveness of any pain that others have caused.

Step nine states, "made direct amends to such people whenever possible, except when to do so would injure them or others" (Alcoholics Anonymous, 2008, p. 83). The purpose of step nine is to admit the wrongdoings that one has previously listed to the people who were harmed by those actions. However, the text states that this should not be done whenever making these

amends would cause great harm to other people. AA members are encouraged to ask God for help, and to consult their sponsors and spiritual advisors before making such amends.

The tenth step is, "continued to take personal inventory and when we were wrong promptly admitted it" (Alcoholics Anonymous, 2008, p. 88). This step entails a continuous evaluation of one's behavior and the motives and attitudes behind it. It requires constant "self-restraint, honest analysis of what is involved, a willingness to admit when the fault is ours, and an equal willingness to forgive when the fault is elsewhere" (p. 91). The text stresses that AA members must strive to engage in this type of on-going self-review in all situations, and should seek to assess their progress every day.

Step eleven states, "sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out" (Alcoholics Anonymous, 2008, p. 96). Prayer and meditation are considered the pathways to contact with God, and AA members strive to seek God's will for themselves and others through frequent and continuous prayer and meditation. The text states that those individuals who use a concept of a Higher Power other than God (e.g., the power of the AA group itself), and those who may resist the idea of prayer, ought to try praying because "almost the only scoffers at prayer are those who never tried it enough" (p. 97). The AA literature essentially states then, that if one prays enough, one will believe in prayer.

The last step, step 12, is "having had a spiritual awakening as a result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs" (Alcoholics Anonymous, 2008, p. 106). The text states that "the joy of living is the theme of AA's twelfth step, and action is its key word" (p.106). AA members are encouraged to live by all of the steps, in all of their relationships, and in every setting in their lives. They strive to

teach others, through example, the principles that they have learned through AA that have transformed their lives from alcoholic despair to lives filled with love, joy, service to others, and fulfillment of God's will.

It is clear from the emphasis on God in these 12 steps that a belief in God or a higher power is a key component of the AA program. So how then does an individual who does not hold theistic beliefs fit in to this program, or can such an individual even participate in AA at all or hope to receive any benefit from doing so? The AA literature, in addition to AA members that this author has consulted, refers the individual to a chapter entitled, "We Agnostics" that is directed towards the atheist or agnostic reader. In reviewing this chapter, this author found that atheists and agnostics are strongly encouraged to keep an open mind toward the concept of a higher power, and advancements in scientific discoveries over the last century are cited as examples of how and why one should keep an equally open perspective on spiritual matters (Alcoholics Anonymous, 2008). The AA literature reasons that the atheist and the agnostic demonstrate faithfulness to "the God of Reason" and have "worshipped people, sentiment, things, money, and ourselves" (p.54). Therefore, it is stated, they have the capacity for faith in God and to worship God. It seems clear to this author that the literature does not offer an alternative means for atheists and agnostics to adopt the AA program; rather, it requires atheists and agnostics to alter their beliefs to align with the concept of God or a higher power. The following excerpt from "We Agnostics" illustrates this point:

> We had seen spiritual release, but liked to tell ourselves it wasn't true. Actually we were fooling ourselves, for deep down in every man, woman, and child, is the fundamental idea of God. It may be obscured by calamity, by pomp, by worship of other things, but in some form or other it is there. For faith in a Power greater than ourselves, and

> miraculous demonstrations of that power in human lives, are facts as old as man himself (Alcoholics Anonymous, 2008, p. 55).

Thus, a belief in God is, in fact, an essential component of AA, and those who do not share this belief may not be able to fully embrace and experience the AA program. Tonigan, Miller, and Schermer (2002) summarize this point well:

> While a clear prediction is not made, the argument presented in the core literature is that, at a minimum, atheists and agnostics ought to acquire a willingness to believe in the possibility of a higher power or God. By implication, AA affiliates who do not acquire such willingness will not fare well in, or derive the benefits of, AA (p. 535).

Criticisms of Alcoholics Anonymous

One of the major criticisms of AA is that its emphasis on a higher power alienates many people, such as atheists and agnostics, from the program. In addition, the concept of powerlessness in the 12 steps has been criticized, and is unappealing to many people. According to Buddie (2004), "In fact, many people recover from alcohol problems on their own, which challenges the notion that people are powerless" (p. 63-64). AA views alcoholics as powerless over their addiction because it adheres to the disease model of alcoholism, in which alcoholics are thought to have a disease or an allergy to alcohol that makes it impossible for them to ever drink in a safe or moderate manner. Critics of AA state that the disease model can create a self-fulfilling prophecy, in which people view themselves as "sick" and they consequently behave in a sick manner. Furthermore, the disease model tends to view relapse as a natural and normal part of the process of recovery from addiction, an idea that sometimes gives people an excuse to relapse.

Even the notion of relapse and the accompanying assumption that complete abstinence is the only appropriate goal has received criticism. Without a doubt, the AA program advocates that anyone with an alcohol problem must quit drinking entirely in order to regain control and balance in life. However, some researchers have studied whether alcoholics can be taught how to manage and moderate their alcohol intake in an appropriate manner. For example, Miller, Leckman, Delaney, and Tinkcom (1992) found that some subjects who met DSM-III criteria for alcohol dependence were able to sustain moderate, "asymptomatic drinking" over time after they received behavioral self-control training. Although these results appear promising, the authors note that this outcome was most common among those subjects who evidenced the least amount of dependence symptoms, and who were treated early on in their drinking careers. They acknowledge that for many people with long-term histories of alcohol dependence and increased problem severity, abstinence is most likely the best goal. This area of addiction recovery clearly needs to be examined further. Although moderation is not popularly advocated in many treatment programs, non-abstinence based alternatives such as Moderation Management, deserve to be included in research projects because of this preliminary evidence that some problem drinkers can learn to drink safely.

Another common criticism of AA is that it fosters too much dependence among its members (Vaillant, 2005), with its emphasis on attending as many meetings as possible, reading the literature, and working with a sponsor. In fact, some people seem to become almost addicted to AA itself. The focus on obtaining a sponsor has also been criticized because the sponsor-sponsee relationship has the potential for exploitation. Sponsors are individuals who have worked the AA program and they have usually achieved at least one year of sobriety. Their role is to guide newcomers in the process and they become privy to a lot of personal and often painful

information about their sponsees as their sponsees share their "moral inventories" and "defects of character." However, sponsors are not usually trained as mental health professionals and the intimacy involved in such a relationship can lead to abuses of power.

Another criticism of AA is that it only works for individuals who are higher functioning and who do not have comorbid psychiatric issues. Critics claim that the positive outcomes associated with AA participation are over-inflated because AA attracts those people with better prognoses and higher motivation levels (Morgenstern, Labouvie, McCrady, Kahler, & Frey, 1997). This issue is discussed further in the "Efficacy of AA" section.

Finally, AA has been criticized because its roots are based upon the ideas of white, European-American males, and some people believe that the literature and the meetings are therefore inappropriate for individuals from other cultures and backgrounds (Smith, Buxton, Bilal & Seymour, 1993). This issue will be further discussed later in this chapter, and issues related to women in AA and members of other cultural backgrounds in AA will be addressed.

Alternatives to Alcoholics Anonymous

Rational Recovery. Although mental health professionals frequently recommend AA as part of the recovery process from addiction, other alternative approaches have emerged as a result of some of the criticisms of AA. Rational Recovery (RR) is one such example that was founded in 1986 by Jack Trimpey, a social worker who suffered from alcohol addiction but found AA and its disease concept of alcoholism to be in conflict with his own beliefs about his addiction (Trimpey, 1996). Trimpey (1996) rejects the notion held by AA that alcoholism is an incurable disease in which alcoholics are destined to struggle with their addiction forever, and to experience repeated relapses in many cases. He originally published "The Small Book" in 1989, which outlines the RR program as an alternative to AA's "Big Book." RR has its roots in Albert

Ellis's Rational Emotive Therapy, in which psychological problems are thought to be due to irrational beliefs (Galanter, Egelko, & Edwards, 1993). The basis of RR is a cognitive technique called Addictive Voice Recognition Technique, or AVRT (Trimpey, 1996). AVRT teaches people to recognize the difference between the voice of their true selves, and their "Addictive Voice (AV)" or their internal "Beast." AVRT assumes that people are powerful and intelligent, and that their true selves do not want to continue drinking despite the negative consequences. It is their AV that wants to continue drinking, and once people can distinguish between themselves and their AV, they can choose not to listen to the AV anymore, and they can therefore maintain their lifelong commitment to abstinence.

AVRT posits that 12 step concepts such as disease, powerlessness, higher power, relapse, triggers, and denial serve only to keep people active in their addictions, and prevent them from taking responsibility for their behavior. AVRT teaches cognitive techniques that allow people to permanently refrain from drinking without adhering to any particular religious, spiritual, or philosophical principles. According to RR,

> addiction is not a disease, a cell aberration; rather it's a celebration of pleasure-with every drink or use. Substance pleasure overtakes common sense-in the same old-fashioned way that accidental pregnancies occur-but it also blocks natural bad feelings that say 'stop.' It is a state of hyperhedonism that culminates in chemically enhanced stupidity and mounting despair. When pain finally outweighs the pleasure, people are naturally inclined to quit their addictions (Trimpey, 1996, p. 106-107).

Research on the efficacy of RR is extremely limited. One study found that 73% of engaged RR members (i.e., members whose first meeting attendance was at least three months ago) were totally abstinent from alcohol after an average of eight months in RR (Galanter,

Egelko, & Edwards, 1993). In addition, engaged RR members reported significant decreases in their subjective levels of psychological distress since joining RR. However, this study was conducted in RR's early stages, and did not follow group members longitudinally. The authors also point out that a large number of engaged members and new recruits (23% and 57% respectively) reported continued abuse of alcohol despite their RR membership, which could have a detrimental impact upon the group as a whole. Furthermore, the majority of the group members were male, well-educated, and employed, suggesting that RR needs further examination for its applicability among other populations. Indeed, much more research is needed on the overall efficacy of RR, as well as its facility with specific groups.

SMART recovery. Self-Management and Recovery Training (SMART) is a non-profit organization that provides cognitive-behavioral group support for people who want to stop any type of addictive behavior or substance (Horvath & Velten, 2000). SMART was originally named the Rational Recovery Self-Help Network, and it was affiliated with Jack Trimpey's Rational Recovery Systems (SMART Recovery, 2010). In 1994, due to disagreements about the recovery program, the Rational Recovery Self-Help Network ended all ties with Rational Recovery Systems and became SMART Recovery. The skills that are emphasized in SMART recovery are taught in face-to-face group meetings or on-line meetings, which are generally led by non-professional volunteers. SMART Recovery emphasizes a broader scope of addictive behavior than RR and it emphasizes group meetings, whereas RR focuses on educational seminars rather than support meetings. According to Horvath and Velten (2000) SMART Recovery assists people with addictive behavior according to the following guidelines:

> Self-management training occurs by teaching participants the cognitive-behavioral perspective that (1) emotions and behaviors follow from and are maintained by thoughts

and beliefs, (2) to change one's emotions and behaviors it is necessary to consider the accuracy and functionality of one's thoughts and beliefs, and (3) it takes work and practice to replace dysfunctional thoughts and actions with more functional ones (p.185).

The recovery training portion of SMART consists of motivational enhancement and training in coping with cravings. Motivational enhancement occurs through a cost-benefit analysis in which the individual weighs the benefits and drawbacks of continued engagement in the addictive behavior, and whether the behavior is consistent with his or her long-term life goals. Cravings are addressed through teaching the individual accurate beliefs about cravings, specifically that "urges are time-limited, harmless in themselves, and unable to force the individual to act" (p. 185). Like RR, the research on the efficacy of SMART Recovery is limited and further attention to this program is warranted within the research community.

Secular Organizations for Sobriety. Secular Organizations for Sobriety (SOS), also referred to as Save Our Selves, was founded in 1986 by James Christopher, an alcoholic who became frustrated with the religious emphasis inherent in AA (Connors & Dermen, 1996). SOS is a non-professional, non-profit, self-help organization in which each individual group is autonomous. The three main objectives of each group are as follows: "to provide peer support for persons seeking to achieve and maintain sobriety, to provide a forum for participants to express thoughts and feelings about their recovery, and to provide a nonreligious atmosphere" (p. 283). Like AA, SOS is abstinence-based and advocates breaking through denial to admit one's addiction to alcohol. However, the emphasis is on achieving sobriety through self-reliance and personal responsibility, not through reliance on any higher power. SOS posits that the cycle of addiction can be broken through daily acknowledgement of one's addiction, daily acceptance of it, and daily re-prioritization of sobriety as the most important thing in one's life.

Very little research has been published regarding SOS and its efficacy. However, a survey of SOS members by Connors and Dermen (1996) revealed that members tend to be Caucasian, well-educated, married men with no religious affiliation. The survey also indicated that, overall, members were satisfied with SOS as a tool to maintain sobriety, although members reported attending an average of 4.5 AA meetings, in addition to SOS meetings, in the past month. SOS members indicated an overall dislike for the religious focus in AA, yet many members reported benefits from attending AA meetings. This suggests that many SOS members find benefit from the combination of AA and SOS. However, it is important to note that SOS members reported frustration with the limited number of available SOS meetings, and therefore, their use of AA meetings may have had more to do with the unavailability of SOS meetings, rather than a genuine desire to attend AA meetings.

Women for Sobriety. Women for Sobriety (WFS) was founded by Dr. Jean Kirkpatrick in 1975, based upon the premise that men and women differ significantly in their experiences both as active alcoholics, and in recovery (Kaskutas, 1996). She developed WFS due to her frustration with her own experiences in AA, and her belief that women's only AA groups do not adequately address the unique experiences of women alcoholics because AA was originally developed by and for men. Dr. Kirkpatrick believes that women need a separate treatment approach because they experience low self-esteem, high levels of guilt and depression, and conflicts with gender role expectations (Kaskutas, 1994). WFS lists 13 affirmations that emphasize four themes: no drinking, positive thinking, believing in one's own competency, and growing spiritually and emotionally. According to Kaskutas (1994):

> She argues that to reduce guilt women need a positive program that focuses on the future; to improve self-esteem, they need a program that reinforces positive thinking about a

> woman's abilities and one that instills independence. She sees AA as a negative program, which focuses on the sins of past drinking, emphasizes character defects, and encourages dependence on a higher power, on sponsors, and on lifelong attendance at meetings (p. 188).

As such, WFS discourages discussions of past drinking behavior and encourages women to focus on their strengths and accomplishments. This is not intended to be a denial of one's past actions, but it is a refusal to dwell on them. In addition, the program emphasizes spirituality without fostering dependence upon an external higher power, and it purports that "the source of sobriety is one's state of mind" (p. 189). Spiritual growth is viewed as an essential part of the recovery process; however, "sobriety from alcohol is viewed as a personal achievement rather than a gift from God" (Humphreys & Kaskutas, 1995, p. 236).

Similar to the other AA alternatives discussed, there is little research on WFS. One survey of WFS members revealed that women in WFS tend to be well-educated, Caucasian, and in their 40's and 50's (Kaskutas, 1996). Over half are married, and two-thirds are employed full-time, part-time, or self-employed. This survey also indicated that women attend WFS meetings because the meetings provide support, they agree with the program's philosophy, they enjoy the all-women forum, and the meetings provide a safe environment (Kaskutas, 1994). One third of the WFS members surveyed also attend AA, and the most frequent reason given for doing so was their feeling that AA helps to ensure their sobriety. Other reasons for AA attendance included meeting availability, friendships and fellowship at AA meetings, the supportive environment at AA meetings, the opportunity to learn from others, the AA program itself, and that AA attendance was mandated or encouraged by someone else. WFS members who do not attend AA responded that they did not feel that they fit in at AA meetings, that AA is too negative, that they

did not like the spiritual emphasis of AA, that they disagreed with AA program principles, and that AA is too male-oriented. Interestingly, on open-ended items, none of the WFS members indicated that WFS offers them sobriety, whereas sobriety was the most frequently given response regarding AA attendance. However, on closed-ended items, women did indicate that WFS is an important factor in their sobriety. These results illustrate that some women need alternatives to AA, and WFS appears to be a viable option for many women alcoholics. For many other women alcoholics, WFS can be a valuable supplement to the benefits that they experience in AA.

LifeRing. LifeRing is another self-help group that can be a viable alternative to AA. The program consists of a workbook, on-line support, and face-to-face meetings, although many members rely solely on the written materials due to the difficulty in locating meetings in most areas (Nicolaus, 2009). Meetings are lead by "convenors" who are peer volunteers who are also in recovery. The focus is on the present and meetings begin with everyone sharing about his or her past week. Unlike AA meetings, cross-talk and open feedback are encouraged, while relating drinking stories is not permitted. LifeRing fosters an atmosphere of spirituality through human connection, but specifically discourages talk about religion or politics. There are no sponsors, and the program attempts to empower each member to take responsibility for his or her own recovery program.

The LifeRing program assists its members with differentiating between their sober self ("S") and their addicted self ("A"). According to Nicolaus (2009, p. 39), simply stated, "S" is "everything that speaks for, promotes, or defends living life free of addictive substances" while "A" is "everything that speaks for, promotes, or defends the use of addictive substances." The

LifeRing program focuses on recognizing these split portions of oneself, and strengthening and enhancing the "S" rather than focusing on the "A."

Like AA and most other recovery programs, LifeRing is abstinence-based and focuses on the individual's self-efficacy to stop drinking (Nicolaus, 2009). Religion, God, and the concept of a higher power are not discussed. The individual is praised for his or her successes with abstinence, and is supported and encouraged by the group through times of difficulty and relapse. LifeRing is intended to be useful for atheists, agnostics, and people from all religious backgrounds because religion is not expressly part of the program. Unlike AA, LifeRing states that people are not powerless over their addictions. In addition, Life Ring takes a neutral stance on the disease concept of alcoholism. It is applicable for those who suffer from addiction to any substance, not solely alcohol, and it encourages its members to create a custom-made program for themselves. The belief is that what works for one person may not work for another person.

Moderation Management. Moderation Management (MM) is a very controversial alternative to any of the abstinence-based programs available. MM is a cognitive-behaviorally oriented program that is designed to help non-dependent problem drinkers regain control of their drinking (Humphreys, 2003). MM was founded in 1994 and it rejects the disease model of alcoholism and the focus on spirituality that are inherent in AA (Klaw, Luft & Humphreys, 2003). Drinking problems are viewed as bad habits that can be changed through cognitive-behavioral principles and social support. According to Klaw, Luft and Humphreys (2003):

> It includes a nine-step professionally reviewed program, which provides information about alcohol, moderate drinking guidelines and limits, drink-monitoring exercises, goal-setting techniques, and self-management strategies. Furthermore, MM encourages

individuals to accept personal responsibility for choosing and maintaining their own approach to recovery, whether moderation or abstinence is their ultimate goal (p. 384).

MM recognizes that its program is not appropriate for individuals who are truly dependent upon alcohol, and it acknowledges that abstinence is the best option for true alcoholics. For individuals who are non-dependent problem drinkers, MM suggests a 30-day period of abstinence, followed by adherence to the following moderation guidelines: three to four days of abstinence per week, no more than three drinks per day and nine drinks per week for females, and no more than four drinks per day and fourteen drinks per week for males. The program includes face-to-face meetings as well as on-line discussion groups, and it is intended for individuals whose alcohol abuse has not resulted in physical dependence or severe consequences.

MM is considered controversial due to the potential for severe alcoholics to believe that they can learn to drink moderately, and the harm that can result from alcoholics' continued consumption of any amount of alcohol (Humphreys, 2003). According to Saladin and Santa Ana (2004), the controversy over controlled drinking originally arose out of several early research findings that suggested that even severe alcoholics could, in some cases, learn to drink moderately. One such study found that 100% of the alcoholics who completed inpatient 12-step oriented treatment, and subsequently returned to controlled, light to moderate drinking, were employed at two-years post-treatment, and exhibited "few apparent aversive consequences" (Alford, 1980, p. 369). Proponents of AA and other abstinence-based groups argued that MM was merely a tool for alcoholics to remain in denial and fool themselves into believing that moderate drinking is attainable for them (Humphreys, 2003). However, Humphreys (2003) argues that MM may lead people who originally seek moderation to the realization that

abstinence is a more appropriate goal. "By providing an entry route into assistance for alcohol-dependent individuals who currently refuse to cross the threshold of an abstinence-only program, MM may be facilitating recovery even for people who will ultimately move on to seek abstinence at a later time or in a different setting" (p. 622).

Overall, it appears that MM can be a useful tool for non-dependent drinkers to modify their behavior before it results in terrible consequences, but abstinence-based programs are usually the best options for alcohol-dependent individuals. The question of who is the best person to determine the difference between dependent and non-dependent individuals has also received debate in the recovery community. Generally speaking, proponents of MM believe that it is up to the individual to determine if he or she is alcohol-dependent, while many others in the field argue that only mental health professionals can make such determinations (Humphreys, 2003).

Comparison of AA and alternative groups. Research comparing the effectiveness of AA with these other alternative groups is limited. However, interestingly, there is some research that suggests that sobriety may not be related to which group one chooses to attend (Atkins & Hawdon, 2007). Atkins and Hawdon (2007) surveyed members of AA, NA, SMART, SOS, and WFS and found that:

> The results of this analysis indicate that, while which mutual-aid support group one attends is unimportant, being actively involved in a mutual-aid support group significantly improves one's chance of remaining clean and sober. Similarly, provided one participates in a mutual-aid support group, his or her religiosity and belief in a Higher Power does not directly influence the chances of remaining sober. Involvement in a group directly increases the amount of time one stays clean and sober (p. 328).

This study also revealed that the extent to which participant's religious beliefs matched the religious beliefs of their primary support group, significantly impacted their level of active participation in the group. This data lends support to the increasingly popular notion in the recovery field that individuals will be more successful in recovery if they are matched to treatment approaches based upon their particular philosophical beliefs. There is a current trend in the field towards individualized treatment and away from a "one size fits all" approach to addiction recovery (p. 330).

Twelve-step treatment. It is important to note that the literature distinguishes between AA and what is referred to as twelve-step treatment, or twelve-step facilitation (TSF). AA refers to non-professional groups within the community that are based upon the 12 steps and 12 traditions of AA. They do not involve intervention by any mental health professional, and members decide how frequently they want to attend meetings and how involved they want to be with the program. In addition, many meetings are "open" meetings where anyone, even those without alcohol abuse problems, can attend. On the other hand, Kelly, Magill, and Stout (2009) explain:

> 'TSF' is the name given to a professional, manualized, intervention designed to facilitate engagement in AA. When the phrase, '12-step treatment' is used, it typically refers to a residential program in which patients receive various interventions, but are also educated in-depth about AA and the 12 steps and may formally work through some of these steps (p. 238).

Therefore, throughout this paper, AA is used to refer to the traditional community-based AA program, and TSF refers to professional hospital or clinic based programs that emphasize twelve-step principles.

The Efficacy of Alcoholics Anonymous

Many members of AA throughout the United States, as well as countries around the world, profess that AA saved them from the devastation of their alcoholism. Some people even claim that they would have died from their alcohol use had it not been for the program of AA. Some research has shown that the majority of trainees in the medical and psychiatric fields, regardless of their area of specialty, believe that there is good scientific evidence to support the efficacy of AA as a treatment for alcohol problems (Roche, Parle, Stubbs, Hall & Saunders, 1995). Yet, researchers in the addiction field have had a difficult time finding consistent data about the efficacy of AA, and results of the AA efficacy literature vary greatly.

One problem is that the anonymity inherent in AA prevents it from being as widely studied as it might otherwise be, and "as an organization AA is uninterested in research" (Vaillant, 2005, p. 433). In addition, bias due to ideological differences on the part of researchers makes impartial studies difficult to conduct, and it is difficult to truly control for treatment exposure because alcoholics tend to be exposed to many different treatment modalities over the course of their experiences in the recovery process.

Despite the inherent challenges to studying AA and its efficacy, researchers have attempted to do so, with studies varying in the degree of relationships found between AA participation and drinking outcomes. In an attempt to better understand how the research findings have been impacted by subject and study characteristics, Tonigan, Toscova, and Miller (1996) conducted a meta-analysis of 74 studies from the AA literature. Overall, they found stronger positive correlations between AA involvement and abstinence from alcohol, and AA attendance and increased psychosocial functioning, among outpatient samples than among inpatient samples. In addition, the authors reported that "for outpatient samples, drinking

severity was modestly predictive of AA affiliation, whereas this was not the case for inpatient samples" (p. 67). These correlations were stronger among studies that were categorized as being more "experimentally rigorous" or "better designed" studies. "Better designed studies, however, provided less support than poorly designed ones for the importance of AA attendance for abstinence after treatment" (p. 68). The authors also point out that the AA studies reviewed in this study tended to lack experimental rigor, with over-reliance upon self-reports without collateral verification, inpatient samples that were not randomly assigned, retrospective correlational designs, and measures that lack appropriate psychometric validation.

Another meta-analysis by Emrick, Tonigan, Montgomery, and Little (1993) stated similar concerns regarding the "pre-experimental" research methods and designs of the majority of the studies reviewed. It also revealed that most of the research conducted with AA members has been comprised of men who were assessed within inpatient treatment programs, and women and community AA samples were largely ignored. In addition, the authors identified problems with the definition of subjects' alcohol problems, as most studies simply labeled the subjects as "alcoholic" without a description of the criteria used to arrive at this conclusion (Emrick et al., 1993).

Despite these limitations, this meta-analysis did reveal that subjects who actively work the program through "having an AA sponsor, engaging in twelve-step work, leading a meeting, and increasing one's degree of participation in the organization compared to a previous time" have better drinking outcomes (Emrick et al., 1993, p. 54). This is consistent with findings by Montgomery, Miller, and Tonigan (1995) who found that greater AA involvement was associated with reduced alcohol consumption, whereas greater AA meeting attendance alone was not associated with reduced alcohol consumption. Thus, it appears that passive AA meeting

attendance does not lead to improvements in drinking and outcomes, suggesting that individuals mandated to attend AA meetings will not likely benefit if they do not become actively involved in the AA program.

Other research regarding the efficacy of AA has yielded additional interesting results. For example, Vaillant (2005) followed two groups of alcoholics over a period of 60 years. One group consisted of college educated men and the other was comprised of disadvantaged inner-city men. He found that about half of the men in each group remained chronic in their alcohol abuse until the present, or until death, and there were no differences between the chronic and abstinent subjects on education, IQ, family problems, alcoholic heredity, hyperactivity in youth, and sociopathic behavior. However, the men who achieved abstinence reported attending 20 times as many AA meetings as the men who remained chronic alcoholics. This is consistent with other findings that have demonstrated that AA affiliation after formal treatment is associated with better substance use outcomes (Connors, Tonigan, & Miller, 2001; Fiorentine, 1999; Forechimes & Tonigan, 2008; Morgenstern et al., 1997).

For example, Fiorentine (1999) compared drug and alcohol use outcomes for subjects who attended post-treatment 12-step meetings and subjects who did not. He found that subjects who attended one or more 12-step meeting per week had significantly better outcomes than subjects who attended less than weekly 12-step meetings. Less than weekly 12-step participation was not more effective than no participation at all, and this pattern was demonstrated for both alcohol and illicit drug users (who attended Narcotics Anonymous or Cocaine Anonymous). Fiorentine (1999) also took into account motivation levels among the subjects, as 12-step programs have been criticized for their "self-selection" of only the most motivated people with the best prognoses. He found that:

> Using both attitudinal and behavioral indicators of recovery motivation, the findings suggest that weekly or more frequent 12-step participants have about the same, or slightly higher, recovery motivation than do less-than-weekly participants, but these differences in motivation account for little, if any, of the differences in drug and alcohol use outcomes between frequent and less-frequent 12-step participants. Even weekly or more frequent 12-step participants with low levels of recovery motivation, including those who drop out of treatment, maintain significantly higher levels of abstinence than do their less-than-weekly counterparts (p. 111).

Furthermore, Fiorentine (1999) examined other factors such as aftercare, alumni activities, and additional substance abuse treatment in order to determine if these factors may have accounted for the better outcomes associated with 12-step participation. The results indicated that the outcomes were not related to any of these extraneous treatment variables. Fiorentine (1999) concluded, "weekly or more frequent 12-step participation is associated with favorable drug and alcohol use outcomes regardless of participation in these activities" (p. 112).

Moos and Moos (2004) also examined outcomes among subjects who participated in AA and those who did not. In addition, they analyzed the impact of both the frequency of AA attendance (number of meetings per week) and the duration of AA attendance (number of months of participation in AA). They found that subjects who had a duration of four or more months in AA within the first year after seeking help for alcohol-related problems, demonstrated better alcohol-related outcomes at one and eight-year follow-up than subjects who did not participate in AA. Continued participation in AA during years two through eight was associated with better eight-year outcomes and higher levels of self-efficacy than were shorter intervals of AA participation. Interestingly, greater frequency of AA attendance beyond one year was

associated with more drinking-related problems at eight-year follow-up. The authors hypothesized that this is "probably because individuals who relapsed and temporarily experienced new alcohol-related problems reentered AA and participated more frequently" (p. 88).

Finally, the authors also found that the benefits of a longer duration of AA participation were not found for a subgroup of individuals who delayed joining AA for a year or more after initially seeking help. These results suggest that it is crucial for individuals to initiate participation in AA quickly. The authors suggest that "individuals who hesitate to join AA may be less motivated to change, find it harder to establish a strong relationship with a sponsor or an AA group, and cycle in and out of AA groups or attend AA only intermittently, a pattern that is associated with poorer outcomes" (Moos & Moos, 2004, p. 88). This is consistent with findings by McLatchie and Lomp (1988) that "subjects who made little or no use of AA or who attended regularly tended to have the best prognosis," whereas "subjects who attended AA on an infrequent or irregular basis were found to have a very poor prognosis" (p. 318).

Moos and Moos (2005) also compared individuals who initiated help for an alcohol abuse problem and then subsequently attended AA only, attended AA and treatment, or attended treatment only. They conducted a long-term analysis with surveys conducted at baseline, 1 year, 3 years, 8 years, and 16 years. The results indicated that among subjects who initially engaged only in treatment, those who subsequently joined AA quickly were more likely to remain in AA over the duration of the follow-ups, and they participated in AA more frequently and for a longer period of time. Longer participation in AA was positively correlated with rates of remission. Subjects who stopped participating in AA were more likely to relapse or remain non-remitted. In addition, subjects who initially engaged in treatment and delayed entry into AA did not appear to

demonstrate any additional benefit from AA attendance, which is consistent with earlier findings from Moos and Moos (2004) regarding the association between rapid entry into AA and better prognosis.

Kaskutas, Ammon, Delucchi, Room, Bond, and Weisner (2005) examined different patterns of AA attendance post-treatment, over a five year period of time. They found four distinct patterns of attendance: the low AA group (attended very few AA meetings), the moderate AA group (attended a moderate number of meetings with stable attendance over time), the high AA group (attended a large number of meetings with stability over time), and the declining AA group (attended a large number of meetings initially, but attendance dropped significantly over time). They found that the low AA and medium AA groups demonstrated consistent levels of abstinence over the three follow-up periods; however, the medium AA group had significantly higher abstinence rates (approximately 66%) than the low AA group, which reported a rate of approximately 46%. The high AA group reported slightly higher rates of abstinence than the medium AA group at the one-year follow-up, and these rates increased to 86% at the three-year follow-up, and 79% at the five-year follow-up. The declining AA group reported the highest level of abstinence at one-year (79%); however, their abstinence rates decreased over the subsequent follow-ups by 20%, falling below that of the medium AA group abstinence level.

Although these results indicate a strong correlation between meeting attendance and abstinence, the authors found that attendance was not related to other factors such as social consequences related to alcohol or alcohol dependence symptoms. The authors also examined how AA-oriented behaviors (i.e., considering oneself a member of AA, reading AA literature, having a sponsor, and having had a spiritual awakening) related to meeting attendance. They

found that the percentages of subjects endorsing those behaviors generally followed the meeting attendance patterns for each of the groups (Kaskutas et al., 2005).

Moos and Moos (2007) examined the relationship between various personal and social protective factors and long-term outcomes among a sample of subjects who had never participated in formal substance abuse treatment, but who contacted a referral or detoxification center due to concerns about their drinking. Subjects were surveyed at baseline and at one, three, eight and sixteen year follow-ups. 60% of the subjects sought some type of treatment (e.g., doctor, psychiatrist, psychologist, religious counselor, inpatient, or outpatient treatment) between baseline and the one-year follow-up. The results indicated that greater participation in AA at one-year independently predicted less alcohol consumption at the eight-year and sixteen-year follow-ups. The authors state that AA appears to be one of many important protective factors (e.g., self-efficacy, approach coping, and health, financial, work, and social resources) that are associated with better long-term alcohol-related outcomes. They state that, "the findings point to a general process whereby longer participation in treatment is associated with stabilization and/or improvement in protective resources and, in turn, these resources bolster the long-term effects of treatment and mediate part of the influence of treatment on remission" (p. 52). As AA appears to be an important protective factor, this research reinforces prior work that has highlighted the importance of timely involvement in AA (Moos & Moos, 2004).

Many studies have focused on the efficacy of AA, and overall it appears as though active participation in the AA program is associated with equal to or better outcomes than other treatment approaches. Yet, these studies do not demonstrate a cause and effect relationship between AA and abstinence. McKellar, Stewart, and Humphreys (2003) conducted a study to determine whether or not there is such a causal relationship between AA participation and better

alcohol-related outcomes. The authors used structural equation modeling (SEM) to evaluate three hypotheses: "whether AA involvement is a cause, consequence, or merely a correlate of better alcohol-related outcomes" (p.302), and they discovered the following:

> The present findings are consistent with the hypothesis that AA involvement causes subsequent decreases in alcohol consumption and related problems. Specifically, higher first-year levels of AA involvement predicted better second-year alcohol-related outcome (Hypothesis 1), but first-year alcohol-related outcomes did not predict second-year AA involvement (Hypothesis 2). Further, the relationship between AA participation and better outcomes was present even after accounting for baseline levels of AA involvement and alcohol problems severity prior to treatment, indicating that AA's effect does not depend on having less-severe substance abuse problems at the beginning of treatment (McKellar, et al., 2003, p. 306).

The third hypothesis that the authors examined was that a third factor, such as motivation level or a lack of comorbid psychiatric problems, causes both AA involvement and better alcohol-related outcomes. In other words, individuals with a "good prognosis" in terms of motivation and mental health are more apt to attend AA and to have better outcomes because of that good prognosis than are individuals with less motivation and more psychiatric comorbidity. Indeed, some research has found that subjects with psychiatric diagnoses not only do not improve with treatment, but are actually more likely to deteriorate over the course of treatment than are subjects without psychiatric comorbidity (Moos, Moos & Finey, 2001). However, the results of this study indicated that motivation level and psychopathology did not change the relationship between AA involvement and better alcohol-related outcomes. These results do not

support the notion that "AA only looks effective because of self-selection of the easiest cases into the organization" (McKellar, et al., 2003, p. 302).

Comparison of AA and other treatments. Longabaugh, Wirtz, Zweben and Stout (1998) compared drinking outcomes for subjects assigned to TSF, cognitive-behavioral treatment (CBT), and motivational enhancement therapy (MET). They found that, for subjects who were exposed to environments that were supportive of drinking, AA involvement was associated with a greater number of days abstinent and fewer drinks per drinking day, regardless of which treatment modality they were assigned to. AA involvement did not have a significant impact upon drinking outcome for subjects who had social networks that were unsupportive of drinking. Thus, this study suggests that involvement in AA may create a kind of buffer from relapse for those individuals who are surrounded by social environments that do not support abstinence. Subsequent research has supported this outcome among both outpatient and aftercare (subjects who had previously engaged in an inpatient or day treatment program) samples (Connors et al., 2001).

Ouimette, Moos, and Finney (1998) also compared substance use and psychosocial outcomes for subjects who chose one of the following post-treatment aftercare options: outpatient mental health only, 12-step participation only, combined outpatient mental health and 12-step participation, and no aftercare treatment. The following outcomes were measured: abstinence, remission, DSM-IV alcohol dependence symptoms, depression, employment, legal status, and spouse/partner/friend resources. The results indicated that the subjects in the combined outpatient mental health and 12-step participation group demonstrated the best substance use and psychosocial outcomes at one year post-treatment, while the no aftercare group had the poorest outcomes. In addition, the 12-step only group had better outcomes than

the outpatient only group, with the outpatient only group having comparable outcomes to the no aftercare group. However, among subjects in both the outpatient only group and the 12-step only group, those subjects who maintained more regular, consistent appointments or meetings reported better outcomes than subjects who attended less consistently.

Overall, this study found that the combination outpatient and 12-step group experienced the best substance use and psychosocial outcomes, which is consistent with other findings that combined 12-step and formal treatment is associated with an increased likelihood of abstinence (Dawson, Grant, Stinson & Chou, 2006). Ouimette, et al., (1998) concluded that each intervention was likely reinforcing the other, which led to greater participation in both interventions among the subjects. Interestingly, the pattern of outcomes seen for all of the groups remained consistent even when DSM-IV Axis I diagnoses were taken into account. Thus, "these findings suggest that substance abuse patients with comorbid psychiatric issues may benefit from both professional and community-based 12-step interventions" (p. 520).

Another study by Glasner-Edwards et al. (2007) compared outcomes among subjects with substance dependence and comorbid major depression, and they found that subjects in both the CBT and TSF groups showed improvement on depression ratings and number of days abstinent at the end of treatment, with the TSF group demonstrating slightly better outcomes.

It is important to note some of the general limitations of the studies on the efficacy of AA. Many of the AA members used in these studies were not randomly assigned to AA participation, and they tended to be comprised of male subjects who were often VA patients and often involved in combinations of inpatient TSF groups as well as community AA groups. More research needs to focus on women in AA and community-based AA groups that are separate from inpatient TSF groups. It is also interesting to note that most of the studies classified "better

outcomes" in terms of a reduction in the amount of alcohol consumed, not in terms of total abstinence from alcohol. Given the high relapse rate among alcoholics, it is uncertain whether AA or any other treatment program would demonstrate strong correlations if absolute abstinence was used as the criterion for a successful outcome. Overall, however, it appears that many people derive some benefit from AA, and the nature of who benefits, and how and why they benefit needs further exploration.

Sex Differences and Cultural Diversity within Alcoholics Anonymous

AA and women. According to Emrick (1987), the percentage of female AA members rose from 22% in 1968 to nearly 30% in 1983. Since then, the rate of growth for female membership appears to have slowed significantly, with the 2007 AA membership survey reporting its percentage of female members at 33% (Alcoholics Anonymous, 2007). Yet early research by Alford (1980) found that female subjects attended AA meetings significantly more frequently than did male subjects, and that female subjects exhibited higher abstinence rates than male subjects at six months, one year, and two years post-treatment. However, given that AA was founded by white men and that many research samples on AA have been largely comprised of white men, some researchers have wondered about the applicability of the AA program to women.

As was discussed previously in this chapter, women-only AA groups have emerged and are widely available today. However, some professionals argue that women have different needs and experiences in recovery than men, and therefore, they need programs that are specifically tailored for women. For example, Humphreys and Kaskutas (1995) criticize the broad application of AA to women because AA focuses on stripping away at pride in order to bring about humility. They argue that American culture already socializes women to have low self-

esteem, and therefore, women require a program that enhances their self-esteem, rather than further depletes it. They state that:

> American women experience many systematic inequities and have lower self-esteem and higher rates of depression (American Psychiatric Association, 1987) than men. Broadly speaking, for most American women, achieving a balance between humility and a sense of self-worth may require a raising up of the self, whereas for most American men, the reverse process may be required to adjust for their socially-imbued overestimate of their own importance (p. 240).

Manhal-Baugus (1998) also stresses the importance of the female experience of alcoholism and recovery, and how it differs from the male experience upon which AA is based. She describes the female experience within the context of the self-in-relation theory, which states that the primary goal for women throughout their lives is to find meaningful connections with others. According to this theory, women develop their sense of identity through their relationships, both past and present, with others. Alcoholism and other substance abuse problems arise from a lack of this connectedness with others, and the substances serve to fill the void that occurs in conjunction with feelings of isolation, depression, and rejection. In addition, the relational model states that "women are stereotypically nurturing, quiet, sensitive, collaborative, and relationship-oriented, and these characteristics are not generally valued" in American culture (p. 80). Therefore, women need recovery programs that are designed to view these traditionally feminine characteristics as valuable strengths, and Manhal-Baugus (1998) argues that conventional programs such as AA fail to adequately address these unique needs. She advocates that clinicians consider referring women to groups such as WFS, which was discussed earlier in this chapter.

Despite the historic omission of women among many studies of AA, more recent studies have explored abstinence rates of women who attend AA. For example, Timko, Moos, Finney, and Connell (2008) found that AA attendance was positively related to a greater likelihood of abstinence, having no days of intoxication, and having no drinking-related problems at one-year, three-year, and eight-year follow ups, and that this relationship was stronger for female subjects than it was for male subjects. "In terms of drinking outcomes, women appeared to benefit more than did men from more AA attendance during years 2-8 of follow-up" (Timko et al., 2008, p. 884). Ammon, Bond, Matzger, and Weisner (2008) also conducted a longitudinal study that found that reduced alcohol consumption was associated with greater AA attendance in both men and women who met DSM-IV criteria for alcohol dependence.

AA and African-Americans. According to Durant (2005), rates of alcoholism among African-Americans are significantly higher than among Caucasians in the United States. In addition, African-Americans have higher rates of alcoholic cirrhosis and deaths related to alcohol, and higher rates of violence associated with alcohol (Rogan, 1986) than Caucasians. However, despite the negative impact of alcoholism in the community, African-Americans are less likely to view alcoholism as a disease than Caucasians, and they are therefore less likely to seek treatment (Durant, 2005). Furthermore, when African-Americans do seek treatment, they are more likely than members of other ethnic groups to demonstrate deterioration associated with treatment participation, rather than beneficial outcomes (Moos, Moos & Finney, 2001).

AA has been criticized because many people believe that its European-American framework is inappropriate for African-Americans and other culturally diverse groups. Smith et al. (1993) state that African-American culture is "communal" and that the emphasis on individual recovery in AA is inconsistent with this perspective. In addition, the authors point out

that anonymity is an inappropriate goal for people who have historically been oppressed by slavery and therefore, have been made to feel anonymous, invisible, and powerless throughout their lives. Smith et al. (1993) suggest that the 12 steps and the AA format can be, and have been, successfully modified to be more cohesive with African-American culture by emphasizing gaining control over one's life, taking responsibility, honesty about one's feelings, and renewed spirituality. The authors point out that these are all concepts that are clearly embraced by AA, but they need to be rewritten using terms that are more culturally-relevant for African-Americans because the European-American language in the 12 steps can be unsettling to African-Americans.

Durant (2005) is also critical of AA and he states that traditional treatments based upon the AA program generally do not take into account the fact that African-Americans have a "dual perspective" in society. That is, they function and adapt to both the dominant, white "Eurocentric" worldview, as well as the "Afrocentric" worldview. Durant (2005) states:

> From this position, the dual perspective can be used as a mechanism to inform practitioners about institutionalized disadvantages, in the larger system of society, erected against individuals who belong to minority groups. And, that often these obstacles can be subtle and not easily recognized unless the dual perspective is assimilated into the clinical reasoning of practitioners who work with African-Americans. Inattention to the dual perspective in AA makes an enormous difference, which results in an unspecified number of African-American alcoholics never completing the affiliation process. The suggestion is that culture specific treatment of alcoholism in African-Americans is more effective when the alcoholic's status in life, society's inconsistencies, experiences and feelings of powerlessness are taken into account (p. 10).

Durant (2005) interviewed 48 African-American alcoholics and observed African-American AA meetings, as well as African-American alcoholics participating in predominantly white AA meetings, over the course of 12 months. He discussed how the African-American alcoholics modified the AA program to meet their needs, and he identified six phases that the African-American subjects went through in AA. The first phase is pain, in which the subjects ended up at AA due to what they described as "hurting." This is very different from the White conceptualization of "hitting bottom" because the subjects did not associate their pain with their drinking. Durant (2005) states that this is not due to denial, but rather it is due to the social reality of racism that the subjects reported. "This cohort of alcoholics connect this pain to fear and abandonment, oppression, lack of employment, poor education, hopelessness, and perceive that these are caused by the effects of racism" (p.11).

The second phase is referred to as "learning about AA and accepting drinking problem" (Durant, 2005, p. 13). In this phase, the subjects were challenged to adopt the language, slogans, and tenets of AA, most of which were foreign to their cultural perspective. The subjects demonstrated the ability to function within the program from both their culture-specific perspective, as well as the White perspective. Some concepts, such as the disease model of alcoholism, were rejected by subjects, while others, such as openness and sponsorship, were adopted with only slight modifications in language. During this phase, the subjects began to move from "negative talk" (the drawbacks of drinking) to "positive talk" (the benefits of abstaining) (p. 15).

Phase three is called "speaking in opposites," which refers to "an increased awareness of self, self-esteem and the assimilation of the deviant status introduced in phase two" (Durant, 2005, p. 15). This is when the subjects learned to integrate the "negative talk" with the "positive

talk" as opposed to focusing solely on the negative, which was exhibited in the storytelling in meetings by subjects who were in earlier phases of the affiliation process.

Chairing meetings and sponsoring is the fourth phase of affiliation identified by Durant (2005). This is the point at which the subjects began to consider making a commitment to AA, and their participation as sponsors and chairpersons increased. "The data suggest that African-American alcoholics (new-comers) do not espouse the AA ideology, but seem to maintain and continue their affiliation with AA as a result of modeling by and support from old-timers whom they identify with and have developed relationships" (p. 17).

The fifth phase is commitment to AA or the church, in which new-comers either decide to commit to AA, or they opt to rely on church affiliations to meet their needs. Affiliation with AA is the final phase, in which the subjects delve into the 12 steps and further increase their participation in AA (Durant, 2005).

AA and Hispanic Americans. The psychological literature often lumps all Hispanics together in one group. However, Hoffman (1994) cautions that there is great variability between Hispanic groups with origins in different countries. Hoffman (1994) examined several AA meetings in the Los Angeles area and observed how the cultural climate within various Hispanic-American AA meetings differed from that of typical Euro-American meetings. The disease concept of alcoholism and the reliance on a higher power were emphasized in these meetings. He reported that within many groups comprised mostly of men of Mexican or Central American origin, there was a strong emphasis on "machismo" or manliness, and the role of the male as the head of the family. In addition, there was a significant emphasis on "male boasting, competitiveness, and sexually aggressive behavior toward women" (p. 455). Therefore, Hispanic women were almost never present in these meetings unless they were accompanying

their husbands. In addition, homosexuality is extremely stigmatized in these meetings. Hoffman (1994) discussed the clinical significance for women and gay men seeking help for alcoholism in these communities.

Arroyo, Miller, and Tonigan (2003) compared drinking outcomes among self-identified "Hispanics" and "non-Hispanic whites" who were randomly assigned to TSF, CBT or MET. They found no significant differences between outcomes for Hispanics assigned to each of the three treatment modalities, and the Hispanic subjects had less frequent AA attendance than the non-Hispanic white subjects. However, Hispanic subjects who did attend AA reported significantly more AA involvement (e.g., step work, having a sponsor) than non-Hispanic white subjects. Level of acculturation of the Hispanic subjects did not significantly impact their drinking outcomes (Arroyo, Miller & Tonigan, 2003).

AA and Asian Americans. According to Lee, Law and Eo (2003), substance abuse problems are often underestimated within Asian-American communities due to the stigma surrounding substance abuse, cultural barriers to treatment, and under-utilization of treatment services. Furthermore, Asian-Americans are often ignored in the research literature, or are lumped together despite vast cultural differences between different groups of Asian origin. Lee, Law and Eo (2003) surveyed 425 Asian-Americans (Chinese, Indian, Korean, and Vietnamese) about the prevalence and their perceptions of drug and alcohol abuse in their communities. Among the total sample, 20.9% of the subjects reported consuming 12 or more drinks in the past year, with 15.3% of Chinese, 15% of Indian, 32.7% of Korean, and 18.3% of Vietnamese respondents reporting such levels of alcohol use. Korean respondents reported the least number of abstainers (31.1%), while approximately 60% of the other groups reported complete

abstinence. Few respondents in any of the groups (only 3.3%) reported use of illicit drugs (Lee, Law & Eo, 2003).

The researchers also surveyed the subjects regarding their attitudes towards treatment, and they found that more than two-thirds of the subjects believed that treatment can be helpful for people who are addicted to substances and their families (Lee, Law & Eo, 2003). In addition, "more than half of the respondents also believed in the locus of control of the substance users to stop drinking or using drugs with or without treatment" (p. 17), although Korean respondents were less likely than the other groups to believe that substance users can stop without treatment. 44.3% of respondents stated that they would try to quit on their own if they had a problem with drugs or alcohol, while only 5.9% reported that they would attend NA or AA meetings. Korean subjects were much less likely than the other three groups to opt for NA or AA attendance. Respondents from all four groups rarely endorsed formal inpatient or outpatient treatment as possible options. Overall, despite positive attitudes about treatment, the respondents tended to believe that substance abusers can quit on their own, and they chose quitting on their own as their first option if they were to experience a problem with drugs or alcohol. Lee, Law and Eo (2003) suggest that the reluctance of the Asian American respondents to opt for NA or AA may be due to the cultural stigma attached to substance abuse among these groups. They suggest:

> The utility of support groups such as AA/NA should be reexamined. The public self-disclosing helplessness approach of the Twelve-Step program may need to be modified to a more solution- and strengths-based orientation that allows people to make beneficial changes in their problem behaviors without losing face or feeling ashamed or embarrassed (p. 26).

AA and American and Canadian Indians. Jilek-Aall (1978) studied alcohol abuse among the Coast Salish Indians in British Columbia, Canada. She found that this group of Indians initially viewed alcohol as a "symbol of friendship and equality" from White men (p. 200). Alcohol originally facilitated communication between the Indian and White populations; however, as increasing numbers of Indians began experiencing problems related to their alcohol abuse, the Indians started to view alcohol as an evil substance that White men intentionally used in order to exploit the Indians. This point of view often makes it difficult for this group of Indians to feel comfortable expressing their feelings among non-Indians in AA group meetings, and Jilek-Aall (1978) observed that the Indian group members were very hesitant to participate in meetings where non-Indian members were present.

However, Jilek-Aall (1978) also found through her interviews of the Coast Salish Indians, that there are aspects of AA that are attractive to many Coast Salish Indians and consistent with their culture. For example, many reported that they like the fact that there is no authority structure within AA. All members within AA are considered equal, and anyone can lead a meeting. Many of the Coast Salish Indians also identify with the concept of a higher power, although they tend to view it as a personal higher power that exists within themselves, rather than as an external higher power. She also observed that when the Coast Salish Indians form their own AA groups, they tend to focus more on emotional expression, and the meetings are much less structured than are other AA meetings. There is no pressure to adhere to any time lines and there is no emphasis on anonymity (Jilek-Aall, 1978).

More recent research with a group of Native Americans also revealed conflicts between American Indians and Whites with respect to alcohol. According to Spicer (2001), who conducted in-depth interviews with American Indians in Minnesota, many American Indians

tend to hold very negative views about alcohol and excessive drinking. Even for those people who were still actively drinking at the time of their interviews, "alcohol is seen as a corrupting imposition from the White world and abstinence is held up as an ideal for Indian people" (p.232). In addition, most of the people he interviewed regarded moderate drinking as something that is impossible to attain, and they tended to cite the negative social consequences of abstinence (i.e., no longer hanging out with drinking friends) as a significant reason for their failures to achieve abstinence. Among the people who were able to achieve abstinence, most cited the educational component of treatment programs as the most helpful aspect of treatment because it changed the way they viewed themselves and their drinking behavior. Spicer (2001) reported that views regarding AA were very divergent. Some felt that AA is "more appropriate for Anglo-Americans, given its Christian overtones" (p. 234). Others felt comfortable with AA only when they were able to locate Indian AA groups, while some felt that AA is "completely congruent with their spiritual traditions" (p. 234).

Mechanisms of Change in Alcoholics Anonymous

Alcoholics Anonymous claims that "it is estimated that over two million have recovered through AA" (Alcoholics Anonymous, 2008, p. 15). Although the exact number of people who have maintained long-term recovery from alcohol addiction through AA is unknown, many researchers have wondered what qualities and characteristics about the AA program have lead to its growth and its popularity. As such, researchers have attempted to examine the parameters of AA in order to determine how and why it is successful for some people, and have offered various models for how changes may occur through AA.

Relapse prevention. Vaillant (2005) states that AA is successful because it possesses four characteristics that have been demonstrated to be important factors in relapse prevention:

external supervision, ritual dependency on a competing behavior, new love relationships, and deepened spirituality. First, he suggests that AA provides external supervision through its emphasis on activities such as attending meetings, working with a sponsor, and following the 12 steps, and that these activities serve as daily external reinforcement for abstinence. Vaillant (2005) also states that AA provides ritual dependency on a competing behavior through its emphasis on these daily activities. AA members submerse themselves in sober AA-related activities, and consequently replace their old alcohol-related activities with new, opposing behaviors. In addition, AA provides its members with new love relationships with its emphasis on sharing in meetings, social and service activities, and the development of the relationship between newcomers and their sponsors. Finally, it is evident by reading the 12 steps that AA emphasizes a belief in God and a spiritual awakening, and Vaillant (2005) posits that AA provides its members with the deepened spirituality characteristic that is a part of successful relapse prevention. The topic of spirituality in AA and among alcoholics is broad and controversial, and therefore necessitates its own section. A review of the literature in this area will be provided later in this chapter.

Cognitive and behavioral processes. Another way of looking at the processes of change within AA was examined by Snow, Prochaska, and Rossi (1994). They explored various cognitive and behavioral processes of change among self-identified alcoholics. They compared self-changers (individuals who spontaneously stopped drinking without AA or other help) with AA members who varied in their degree of experience with AA (e.g., frequency of current meeting attendance and degree of affiliation with AA). They found that the higher the overall experience with AA, the greater the usage of behavioral processes such as stimulus control, behavioral management, and helping relationships. They also found that the use of cognitive

processes, such as social liberation, dramatic relief, and evaluation, were not significantly different across these groups. One cognitive process, consciousness raising, was positively correlated with AA experience. These results suggest that individuals who are more extensively involved in AA rely more on behavioral methods than cognitive methods in order to maintain sobriety.

On the other hand, Morgenstern et al. (1997) found evidence that those substance abusers who had better post-treatment outcomes tended to rely on certain cognitive processes. For example, increased pretreatment commitment to abstinence and primary appraisal of harm (i.e., perceived damage of past and continued drug or alcohol abuse and perceived benefit of quitting) were associated with greater AA affiliation. "Affiliation with AA was associated with sustained motivation, and AA affiliation and pretreatment motivation independently predicted improved short-term outcomes" (p. 775). Overall, there was a positive relationship between AA affiliation and greater abstinence, and it appeared as though this relationship was mediated by the cognitive processes of self-efficacy, commitment to abstinence, and the use of active coping strategies.

Social processes. Moos (2008) examined the characteristics of self-help groups, such as AA, within the context of four theories of social processes: social control theory, social learning theory, behavioral economics or behavioral choice theory, and stress and coping theory. Social control theory states that "strong bonds with family, friends, work, religion and other aspects of traditional society motivate individuals to engage in responsible behavior and refrain from substance misuse" (p. 388). Social control theory involves support from others, goal direction, and structure. AA offers support through AA meetings and relationships with AA members, goal direction through the commitment to abstinence from alcohol, and structure through the adherence to the 12 steps.

Social learning theory is based upon the observation and imitation of role models. "In essence, this theory proposes that substance use is a function of positive norms and expectations about substances and family members and friends who engage in and model substance use" (Moos, 2008, p. 388). In AA, group members have the opportunity to observe, to listen to, and to emulate those AA members who have been in the program for an extended period of time, and who have achieved longer periods of sobriety.

Behavioral economics or behavioral choice theory states that individuals will repeat those behaviors that they find pleasurable. It focuses on the inherent and external rewards (e.g., rewards from family and friends) that result from engaging in activities other than substance use. AA encourages its members to become involved in a variety of rewarding program activities such as meetings, service positions, and conventions. In addition, it promotes friendships and bonds that frequently extend beyond the AA community so that members develop social relationships with others who abstain from alcohol use, and thus they begin to find pleasure and rewards from sober activities.

According to stress and coping theory, individuals who lack appropriate coping skills will develop substance use problems when they are faced with significant life stressors (Moos, 2008). Recovery from alcohol addiction thus involves the identification of high-risk stressors, the building of self-efficacy, and the development of effective coping skills. Moos (2008) cites several studies that indicate that participation in AA and abstinence among AA members are associated with increased self-efficacy. However, it seems possible that the reliance upon God or a higher power to remove one's desire to drink, which is so essential to the AA program and philosophy, could be in direct contrast with the idea of self-efficacy to stop drinking. The

literature on self-efficacy to stop drinking and its role in the recovery process is extensive and will be examined in detail later in this literature review.

The Transtheoretical Model. DiClemente (1993) outlines the Transtheoretical Model of behavior change and suggests that it accounts for the changes that occur among AA members. This model posits that the individual engages in various stages of change that require intentional action by the individual. This process begins with a denial of the severity of the problem behavior in the precontemplation stage. As the individual begins to evaluate the situation more and realizes the need for behavior change, he or she moves into the contemplation stage. This is followed by the development of an action plan in the preparation stage, which is then carried out in the action stage. The maintenance stage involves continuing this changed behavior pattern over time such that the old, maladaptive behavior is no longer present. DiClemente (1993) states that the emphasis on voluntary, intentional change inherent in this model is not in opposition to the concept of a higher power in AA because the individual must intentionally engage in the program of AA, and any spiritual "conversion experience" that may occur in AA requires "individual initiative" (p. 80).

These five stages of change in the Transtheoretical Model are negotiated by the use of the following processes of change: consciousness raising, self-reevaluation, social reevaluation, self-liberation, social liberation, counterconditioning, stimulus control, contingency management, dramatic relief, and helping relationship (DiClemente, 1993). The author provides examples of how these processes of change are facilitated through AA. For example, consciousness raising can occur through studying AA's "big book," following the 12 steps, and meeting with a sponsor. Self-reevaluation can occur through examining one's defects of character, and social

liberation can occur through meetings, which support a sober lifestyle, and celebrations and activities that do not include alcohol.

The third dimension of the Transtheoretical Model is the five levels of change, which include symptom/situational, maladaptive cognitions, interpersonal conflict, family conflict, and intrapersonal conflict (DiClemente, 1993). The individual experiences problems to a varying degree at each of these levels, and then implements the processes of change in accordance with the stage of change that he or she is in with regard to that particular level. For example, one may be in the contemplation stage of how his or her alcohol use has impacted one's interpersonal relationships. Through the 12 steps of AA, the individual can engage in self-reevaluation by listing and making amends to any persons that he or she has harmed during the course of abusing alcohol, and thus move from contemplation into the action stage with regard to his or her interpersonal conflicts. Thus, this model proposes a complex interaction between the stages, processes and levels of change.

DiClemente (1993) analyzes AA within the context of this model and concludes that AA is action-oriented, and consequently it may be more beneficial to those individuals who are at a later stage of change, such as the maintenance stage, than individuals in the earlier stages, such as the precontemplation stage. He states:

> AA focuses on multiple levels of change and places great emphasis on maladaptive thinking and beliefs, interpersonal conflicts, and intrapersonal issues of values of character. As such it is more concerned with a larger transformation of the individual than drinking behavior modification (p.95).

Through examining the literature on AA, its efficacy for treating alcohol problems, and its mechanisms of change, this author has identified three inter-related constructs of interest that

each warrant further discussion: locus of control, self-efficacy, and religion and spirituality. Each of these areas has sparked a lot of discussion and research in the area of addiction generally, and also in the specific ways that these constructs are related to the recovery process among AA members.

Locus of Control

Much attention in the alcoholism literature has focused on the concept of locus of control. Traditionally, locus of control was thought of as a dichotomous construct that describes how people view events in their lives. People with an internal locus of control perceive that they have control over important life events, whereas people with an external locus of control perceive that important life events are controlled by "chance, fate, or powerful others" (Murray, Malcarne & Goggin, 2003, p.24).

Some early research in the area of locus of control revealed that alcoholics in general tended to be more internally-oriented than non-alcoholic control subjects (Distefano, Pryer & Garrison, 1972; Gozali & Sloan, 1971). Oziel, Obitz, and Keyson (1972) found that "alcoholics as a group do perceive themselves as being in control of their behavior in general and of their drinking behavior in particular" (p. 958). Conversely, Huckstadt (1987) compared alcoholics, recovering alcoholics, and non-alcoholics and found that the alcoholic subjects scored significantly more externally than the non-alcoholic group. The recovering alcoholics scored more internally than the alcoholics, but more externally than the non-alcoholics, though these differences were not statistically significant. However, it is important to note that these early studies included only Caucasian male subjects. Further research, which included female subjects and Native Americans, found that males tended to be more internally-oriented than females, and Caucasians tended to be more internally-oriented than Native Americans (Hurlburt, Gade &

Fuqua, 1983). Other research failed to find gender differences on measures of locus of control among alcoholic subjects, but did find that alcoholic females scored as more externally-oriented than non-problem drinking females (Sandoz, 1995).

An internal locus of control is generally considered to be preferable to an external locus of control in western societies, and some research showed a positive correlation between internal locus of control and abstinence from alcohol use (Magura et al., 2003). Other locus of control research in alcoholics found that higher degrees of externality at the beginning of treatment were associated with greater shifts towards internality over the course of treatment (Abbott, 1984). Moderate and external locus of control scores were associated with better post-treatment drinking outcomes than were internal locus of control scores for subjects who were "neuropsychologically intact," whereas this pattern was not evident among subjects who were more cognitively impaired.

Locus of control among AA members. More recently, researchers have focused specifically on locus of control among AA members, comparing the reliance on an external Higher Power in order to maintain sobriety (external locus of control) with the reliance on oneself to maintain sobriety (internal locus of control). Based on the reliance upon God to alleviate one's desire to drink that is inherent within AA, it seems logical to hypothesize that AA members tend to adhere to more externally-oriented perceptions. However, the research has yielded conflicting results. Li, Feifer and Strohm (2000) found that AA members were significantly more externally-oriented than alcoholic members of SMART Recovery. In addition, AA members have been found to be more externally-oriented than non-alcoholic subjects (Huckstadt, 1987; Sandoz, 1991). However, Sandoz (1991) found that scores became less external and more internal as the length of sobriety increased from zero to seven years in a

sample of AA members. Other research has found a "weak, yet consistently positive" relationship between AA involvement and an internal locus of control (Emrick, 1987; Emrick et al., 1993, p. 60).

In addition, Murray et al. (2003) surveyed AA members about their alcohol-related God/Higher Power beliefs, locus of control, spirituality, and life satisfaction. They found that those AA members who had greater internal control beliefs and less God/Higher Power control beliefs had a longer amount of sobriety than those AA members who had more external control beliefs and more God/Higher Power control beliefs. They also found that greater God/Higher Power control beliefs were associated with more spirituality. This study showed no relationship between control beliefs and life satisfaction.

Bridgman and McQueen (1987) stated that the varying results in locus of control research may be due to the frequently-used definition of locus of control as a merely dichotomous variable. They propose that locus of control has more dimensions than just external and internal and that an individual may possess two differing loci of control at the same time, "one for life events in general and the other for drinking behaviors" (p. 126). They suggest that alcoholics who can develop an external locus of control surrounding their drinking behavior, and an internal locus of control towards life in general, may have more successful outcomes. Likewise, Abbott (1984) states:

> In other words, locus of control was not intended to be a precise indicator of behavior in a given situation. For this purpose, information is required about more specific expectancies. However, the more ambiguous a particular situation is for an individual, the less that more specific expectancies will be able to operate and the greater the reliance on generalized expectancies (p. 47).

The role of locus of control in alcoholism, addiction recovery and AA is not clear. It seems that early research in the field defined locus of control too narrowly, and assumed that it could be applied to subjects categorically. It is likely that this construct is much more complex than originally thought, and that it varies substantially according to situational characteristics. However, it provides a valuable way of conceptualizing and studying one aspect of cognition that is involved with how alcoholics view their problems and their recovery from alcoholism.

The Drinking-Related Locus of Control Scale. In order to address the over-simplification of defining locus of control as a constant, dichotomous variable, Donovan and O'Leary (1978) suggested that, among alcoholics, it may be more useful to examine how they view and respond to specific situations involving alcohol use. They hypothesized that a measure that is designed to assess alcoholics' control orientations during specific drinking-related situations would be more predictive of their behavior, and therefore more valuable. Therefore, they developed the Drinking-Related Locus of Control Scale (DRIE), a 25-item measure of internal and external locus of control in relation to a variety of drinking-related situations and behaviors. Donovan and O'Leary (1978) conducted a factor analysis of the DRIE items and identified the following three factors: Intrapersonal Control, Interpersonal Control, and General Control. The items that load heavily on Intrapersonal Control are stated in the first person, and they relate to the individual's inability to resist the temptation to drink, as well as drinking behavior that results as an attempt to avoid negative emotional states. The items included in the Interpersonal Control factor are also mostly stated in the first person and they relate to the individual's inability to resist interpersonal pressure to drink, and the inability to effectively manage anger in interpersonal situations. The General Control factor consists of items stated in

the third person and relates to chance factors that impact the individual's ability to resist drinking.

Donovan and O'Leary (1978) found that subjects who scored as more external on the overall DRIE scale as well as on the Intrapersonal and Interpersonal Control factors, also tended to endorse "a greater level of depression as well as more psychophysiological symptomatology, self-debasement, pessimism and suicidal ideation, and indecision-inhibition" (p.771). In addition, they found that more externally-oriented scores on the overall DRIE were associated with greater levels of psychopathology on the Minnesota Multiphasic Personality Inventory (MMPI).

Kivlahan, Donovan, and Walker (1983) examined DRIE scores in relation to subjects' perceived reasons for drinking or relapsing to drinking. In addition to the DRIE, the authors asked subjects to identify the reasons for their drinking during the last few months, and responses fell into one of the following categories: Negative Emotional States, Negative Physical States, Positive Emotional States, Interpersonal Conflict, and Social Pressure. The results indicated that subjects who selected Negative Emotional States as the primary reason for their drinking or relapse scored as more externally-oriented on the DRIE. Subjects who endorsed Negative Physical States as the primary reason for their drinking or relapse (e.g., cravings for alcohol) scored as more internally-oriented on the DRIE.

Koski-Jannes (1994) also utilized the DRIE in order to examine the relationship between drinking-related locus of control and relapse after treatment among alcoholics in Finland. She found that "among those 75 subjects who reported on their first drinking occasion [post-treatment], the internal ones started to drink later, consumed less on this occasion and continued for fewer days than the external subjects" (p. 493). Furthermore, the subjects who scored

internally continued to remain abstinent longer than those who scored externally at the six and twelve month post-treatment follow-up periods.

The concept of locus of control has historically been oversimplified among researchers. It is now evident that this construct is more complex than an external-internal dichotomy, and that locus of control likely varies among individuals according to the particular circumstances, as well as many other individual factors. However, in western cultures, a more internally oriented locus of control seems to be prized more than a more external locus of control, as it appears to indicate a greater responsibility for oneself and one's actions. Research has yielded conflicting results regarding locus of control among alcoholics and members of AA, and this construct deserves further exploration among this population. The DRIE scale appears to be a good measure to assist the research community in doing so, and its psychometric properties will be discussed further in chapter two.

Self-Efficacy

The construct of self-efficacy was developed and described by Albert Bandura in his social learning theory. Bandura (1977) discusses how cognitive processes impact behavior patterns in adaptive or maladaptive ways. He states that people have "efficacy expectations" regarding their ability to successfully carry out a certain behavior that will likely result in a desired outcome:

> Efficacy expectations determine how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences. The stronger the perceived self-efficacy, the more active the efforts. Those who persist in subjectively threatening activities that are in fact relatively safe will gain corrective experiences that reinforce their sense of efficacy, thereby eventually eliminating their defensive behavior. Those

who cease their coping efforts prematurely will retain their self-debilitating expectations and fears for a long time (p. 194).

Bandura (1977) states that efficacy expectations are based upon the following sources of information: performance accomplishments, vicarious experience, verbal persuasion, and physiological states. Performance accomplishments refer to one's experiences of personal mastery with a particular skill or behavior and involve direct feedback from the self and the environment regarding the degree of success or failure of the behavior. Vicarious experience refers to the observation of others' performance of a task or behavior. People are often able to improve their own efficacy expectations by watching another person succeed at a task or behavior. Verbal persuasion and reassurance by other people can enhance self-efficacy expectations; however, this will not be successful in maintaining self-efficacy if the behavioral outcome is inconsistent with the verbal assurance. Physiological arousal refers to the emotional and physiological fear responses that occur under stressful situations, which greatly impact perceived self-efficacy. "Fear reactions generate further fear of impending stressful situations through anticipatory self-arousal. By conjuring up fear-provoking thoughts about their ineptitude, individuals can rouse themselves to elevated levels of anxiety that far exceed the fear experienced during the actual threatening situation" (p. 199).

Self-efficacy to refrain from drinking has been widely researched among subjects with alcohol use disorders. Moos and Moos (2007) define abstinence self-efficacy as "an individual's confidence in the ability to remain abstinent when confronted by high-risk situations" (p. 47). It is a perception that one can control one's own drinking behavior, and researchers have questioned if and how this construct plays a role among individuals who adhere to the 12 steps of AA, in which the primary belief system is based upon an external, God-oriented locus of control

for recovery from alcohol addiction. It seems logical to hypothesize that AA members would report low levels of self-efficacy related to drinking, due to the belief that a higher power has a significant amount of influence upon one's drinking behavior. However, Magura et al. (2003) argue that self-efficacy is consistent with the 12 steps of AA, and that the steps promote personal responsibility and empowerment in addition to the reliance on a higher power.

While some research found no differences in self-efficacy ratings between alcoholics who had never attended AA, alcoholics who attended AA in the past, and alcoholics who were currently attending AA (Snow et al., 1994), much of the research has demonstrated that self-efficacy to resist drinking is an important factor in the recovery process, and it is associated with increased abstinence after treatment (Piderman, Schneekloth, Pankratz, Stevens, & Altchuler, 2008). For example, Rychtarik, Prue, Rapp, and King (1992) found that self-efficacy increased over the course of treatment in a sample of alcoholics who attended a 28-day inpatient cognitive-behavioral treatment program. Higher levels of self-efficacy at intake were positively correlated with abstinence at the six month follow-up; however, discharge self-efficacy was not significantly related to abstinence at the six month follow-up. For the 12-month follow-up assessment, groups with high and low levels of self-efficacy at intake did not differ on their rates of relapse. "Thus, the data suggest that high levels of intake self-efficacy alone may function to delay a relapse but may not prevent it from eventually occurring" (p. 439).

In addition, Morgenstern et al. (1997) found that self-efficacy increased over time in a sample of substance abusers in a twelve-step based treatment program who were assessed during treatment and at one and six-month follow-ups. Greater self-efficacy post-treatment was associated with less substance use at one and six-month follow-ups. They also found that "patients with low self-efficacy at discharge have poorer outcomes, independent of motivation,

prior problem severity, and affiliation with AA" (p. 775). Similarly, Moos and Moos (2006) found that subjects who reported lower self-efficacy were more likely to relapse, regardless of whether or not they received any treatment for their alcohol dependence. Conversely, increases in self-efficacy that developed during the course of both CBT and TSF treatment groups have been associated with greater abstinence among veterans with comorbid major depression (Glasner-Edwards et al., 2007).

Another study by Bogenschutz, Tonigan, and Miller (2006) examined AA attendance and self-efficacy among subjects who were categorized as either Type A or Type B alcoholics. Type A alcoholics had a later onset of alcoholism, fewer childhood behavioral problems, and less physical alcohol dependence, alcohol-related problems, and psychopathology than Type B alcoholics. Type B alcoholics also had a stronger family history of alcoholism, more use of other substances, more prior treatment history, and greater life stressors. The results indicated that Type A alcoholics reported higher self-efficacy post-treatment, regardless of the type of treatment administered (i.e., CBT, TSF, or MET). In addition, AA attendance was positively correlated with greater self-efficacy, regardless of alcoholism typology. "Consistent with other studies (Connors et al., 2001; Morgenstern et al., 1997), level of self-efficacy to abstain was a strong predictor of later abstinence and partially mediated the effect of AA attendance on abstinence" (Bogenscutz et al., 2006, p. 566).

In addition, McKeller, Ilgen, Moos, and Moos (2008) compared self-efficacy ratings, cognitive variables, and treatment participation among subjects at baseline, and at one, three, eight, and sixteen-year follow-ups. They found that self-efficacy ratings increased significantly from baseline to the one-year follow-up, and overall these ratings remained high at the subsequent follow-ups. "At 1 year, higher self-efficacy was predicted by greater improvement in

frequency of heavy drinking problems; more improvement in depression, impulsivity, avoidance coping, and social support; and a longer duration of participation in AA between baseline and 1 year" (McKeller et al., 2008, p. 152). In addition, women and subjects with higher education reported more improvement in self-efficacy ratings from the one to the sixteen-year follow-ups. However, self-efficacy ratings declined from one to sixteen years for those subjects who reported a greater improvement in alcohol-related problems and impulsivity from baseline to one-year follow-up, suggesting that those who experienced the fastest improvements in these areas were less likely to demonstrate high levels of self-efficacy over time.

Forechimes and Tonigan (2008) recently conducted a meta-analysis of key studies in this area in order to examine the importance of self-efficacy in predicting reduced drinking behavior among subjects who attended AA or other twelve-step oriented groups. The results indicated that the amount of change in self-efficacy, as well as the degree of impact of those changes on drinking behavior, varied significantly across the samples. Thus, it appears that not all twelve-step groups are created equally in their ability to increase self-efficacy, which seems logical due to the fact that AA and other twelve-step groups vary greatly in regard to characteristics such as their number of members, their level of cohesion, their focus on the 12 steps, etc.

Moos and Moos (2007) examined factors that were associated with improved drinking outcomes in a sample of subjects who had never participated in formal treatment, but who made contact with a referral center or detoxification center due to concerns regarding their alcohol use. These subjects were surveyed at baseline and follow-up intervals of one, three, eight, and sixteen years. The authors found that higher self-efficacy at one-year predicted reduced alcohol consumption, fewer drinking-related problems, and less depression at three years. In addition,

higher one-year levels of self-efficacy predicted reduced alcohol consumption and fewer drinking-related problems at 16 years.

Overall, it appears that self-efficacy to abstain from drinking is an important factor in recovery from alcoholism. High self-efficacy is associated with better treatment outcomes, and participation in AA can increase self-efficacy for some people. Given that it is important to have confidence in one's own ability to abstain from drinking, the question remains, how important is the role of God or a higher power in recovery? According to the AA literature, a belief in God or a higher power is necessary for recovery, so it is important to consider how the emphasis on God and spirituality in AA relates to the construct of self-efficacy. Do these two dimensions play complimentary roles in recovery, or is there an inherent tension between them?

The Alcohol Abstinence Self-Efficacy Scale. The Alcohol Abstinence Self-Efficacy Scale (AASE) is a 49-item measure that was designed to assess "both the temptation to drink and the confidence or efficacy to abstain in each situation using subjects' ratings on separate 5-point rating scales" (DiClemente, Carbonari, Montgomery & Hughes, 1994, p. 142). However, this scale has not been widely used in research and its psychometric properties have not been extensively examined. In addition, the scale is somewhat lengthy and cumbersome to complete, particularly when included in large batteries of tests and questionnaires. Therefore, DiClemente et al. (1994) created and assessed a modified, 20-item version of the AASE. Factor analysis revealed four factors: Negative Affect, Social/Positive, Physical and Other Concerns, and Withdrawal and Urges. The Negative Affect factor included items that measured both intrapersonal and interpersonal negative affect. The Social/Positive factor consisted of items related to social situations and to alcohol use that enhances positive states of mind. The Physical and Other Concerns factor included items related to physical discomfort or pain, dreams about

drinking, and concerns about others. The Withdrawal and Urges factor was comprised of items related to alcohol withdrawal, cravings, and testing of willpower. Based upon their analyses, DiClemente et al. (1994) concluded that "the AASE represents a brief, easily usable, comprehensive and psychometrically sound measure of self-efficacy to abstain from drinking" (p. 147). The specific psychometric properties of this measure will be discussed in further detail in chapter two.

Spirituality and Religion

Research on spirituality and addiction has demonstrated that "there is strong evidence that spiritual/religious involvement is generally associated with decreased risk of alcohol/drug use, problems and dependence," though the exact nature of the relationship between spirituality and addiction is not well understood (Miller, 1998, p. 981). However, a detailed discussion of how religious or spiritual beliefs may or may not insulate someone from developing a problem with addiction is beyond the scope of this work. The focus of this discussion is on how religious and spiritual beliefs play a role in the process of recovery from an already present addiction, and specifically how these constructs play out within AA.

Despite the strong emphasis on God and spirituality within the AA program, the literature in this area is not extensive. Those researchers who have examined spirituality among alcoholics have found that increases in "private spiritual practices" during treatment were predictive of continuous abstinence at a one-year follow-up (Piderman et al., 2008). However, Magura et al. (2003) found that "spirituality and hope were independently associated with more frequent health promoting behavior, but not with greater likelihood of abstinence" (p. 315).

Li et al. (2000) compared the spiritual beliefs of AA members and members of a cognitive-behaviorally-oriented group called Self Management and Recovery Training

(SMART). They found that AA members endorsed more spirituality than members of SMART, although 48% of the SMART members did endorse a belief in a higher power.

Carroll (1993) examined the AA program in greater detail by studying the relationship between spirituality, as defined specifically by working steps 11 and 12, and purpose in life among AA members. She found a positive correlation between actively working step 11 and purpose in life and length of sobriety. However, no relationship was found between working step 12 and purpose in life or length of sobriety.

Defining religion and spirituality. Like other aspects of AA, its spiritual emphasis has received criticism in scientific research. For example, AA has been criticized because "the spirituality championed by AA is external in nature and aligns more closely with Western versions of religion, like Christianity, than Eastern religions, like Taoism and Buddhism" (Walters, 2002, p. 54). Walters (2002) also states that AA ignores the internal spiritual life of its members through its exclusive reliance on an external higher power. However, others argue that spirituality among AA members goes beyond religion (Nowinski, 1993). In addition to believing in a higher power and relying on that higher power for sobriety, AA members also speak of a "spiritual awakening" that occurs through their participation in the program. This sense of spirituality is considered to be deeply personal and Nowinski (1993) urges researchers to respect this component of AA:

> At the same time that we acknowledge the difficulties in translating spirituality into terms that make it accessible to research, however, we who would study AA must come to terms with the fact that this fellowship admonishes its members to look beyond mere sobriety, to nothing less than a slow, steady, but ultimately profound, personal transformation of a spiritual nature (p.31).

Indeed, the nature of the spiritual transformations that often occur among AA members cannot be easily broken down and may be difficult to quantitatively measure; however, researchers have attempted to operationalize spirituality in AA research in order to better understand this phenomenon. Some studies have defined spirituality simply in terms of "religious preference," asking subjects to name the specific religion, if any, with which they identify (Gorsuch, 1993). Spirituality has also been examined by using behavioral reports such as the frequency of attending religious services, or the personal importance that the individual places on religion.

Other research has defined spirituality in terms that are independent from organized religion. "Spirituality in this sense appears to be referring to people who are concerned with metaphysical issues as well as their day-to-day lives. It need have no belief in God" (Gorsuch, 1993, p. 304). Miller (1998) further distinguishes between religion and spirituality. He describes spirituality as something that is "transcendent," "fundamentally an idiographic aspect of the person," and "defies customary conceptual boundaries" (p. 979-980). Religion, on the other hand, is described as a "social phenomenon" that is defined by its structures and boundaries (Miller, 1998, p. 980). Pargament (1997) defines religion as a structured social system of practices and beliefs, and spirituality as an individual's subjective existential experiences, sense of meaning in life, and/or transcendent experiences.

Furthermore, Tonigan et al. (2002) point out that another problem with measuring religion or spirituality has been that most of the measures used to study these constructs have failed to include "an absolute zero value wherein one may have *no* religious affiliation or one *disbelieves* in the existence of God" (p. 534). Research in this area has typically ignored the perspective of atheists and agnostics; however, it is important to note that atheists and agnostics

may be absent from, or underrepresented in, AA samples due to AA's emphasis on a Higher Power or God. Atheists and agnostics who are not open to changing their views on God and spirituality may quickly reject AA, and therefore may be less likely to be present in research samples of AA members. Tonigan et al. (2002) did find that atheists and agnostics attended AA less frequently than believers in God; however, AA attendance was associated with greater abstinence among those atheists and agnostics who did attend AA. The authors suggest that the benefits of AA attendance for atheist and agnostic subjects may be due to the social support for abstinence that AA provides. Interestingly, this study also revealed that atheists, agnostics, and believers in God demonstrated significantly better outcomes than those subjects who self-identified as "unsure" of their beliefs about God. Thus, having a clear stance regarding one's beliefs about God, even when that meant having an atheistic or agnostic perspective, was associated with better drinking outcomes than having no clear point of view on the issue.

Similarly, Pargament, Ellison, and Flannelly (2006) found that individuals who were involved in spiritual struggles and negative spiritual coping exhibited more symptoms of various types of psychopathology, "including symptoms of anxiety, phobic anxiety, depression, paranoid ideation, obsessive-compulsiveness, and somatization" (p. 1479). Spiritual struggles "are expressions of conflict, question, and doubt regarding matters of faith, God, and religious relationships" (Pargament, Ellison & Flannelly, 2006, p. 1470). The authors state that spiritual struggles can be interpersonal, intrapersonal, or divine in nature. They also found that the relationship between spiritual struggles and symptoms of psychopathology was even stronger for those subjects who had recently experienced a significant illness or injury than it was for individuals experiencing other forms of stressors. This study also lends support to the notion that

people who have a clear foundation for their spiritual beliefs, regardless of what those beliefs are, tend to function better than people who struggle with their spiritual beliefs.

These are a few examples of how religion and spirituality have been viewed, defined, and measured in the literature surrounding alcoholism and AA. With such a diverse understanding of spirituality, it is no wonder that this construct is not well understood. Therefore, it is important to understand that the definition of spirituality is extremely variable from one study to the next, and is highly dependent upon the individual researcher's definition of this construct. The difficulty in defining spirituality and spiritual experiences among AA members is likely part of the reason that this area has received little attention in the AA research, relative to other concepts that lend themselves better to operationalization.

Gorsuch (1993) points out an interesting aspect of spirituality that also appears to be largely neglected in the research on AA. He discusses the construct of hope, and he states that hope is a key element of religion and spirituality that must be present in order for alcoholics to overcome their addiction to alcohol. He states that hope within AA is generated through the belief in a higher power, which includes the "sense of power to radically change one's life" (p. 311). Interestingly, Gorsuch (1993) compares hope to the psychological constructs discussed earlier, locus of control and self-efficacy:

> Modern psychological terms for hope and empowerment include 'internalized locus of control,' 'self-efficacy,' and 'acceptance of responsibility.' Bridgman and McQueen (1987) provide a conceptual analysis that locus of control is indeed central to the AA message of reliance upon a higher power but Miller (1991) correctly notes that spirituality is more than locus of control since it involves a transcendent element, which is the basis for hope. Spirituality is the event that produces hope and internalized locus of

control. Hence, the spirituality aspects of AA should become manifest in evaluations utilizing locus of control measures (p.312).

According to this perspective then, internalized locus of control and high self-efficacy are compatible with, not opposed to, the concept of relying on a higher power that is such a fundamental part of AA. Therefore, it may be that AA members who are very active in AA and who believe strongly in a power that is external to themselves, derive hope, an internal locus of control, and a sense of self-efficacy to abstain from drinking through their belief in that power.

Spiritual coping. Pargament et al. (1990) examined how subjects employed various religious and nonreligious coping methods when faced with a stressful life event, and how those coping methods impacted the outcome of the event. They found that several religious coping methods were associated with more positive outcomes to the stressful event. First, they found that a belief in a "just, loving God" was associated with better outcomes (p. 814). This view of God enabled subjects to frame the event within the parameters of God's will, as opposed to punishment from God, a viewpoint that was associated with poorer outcomes. Second, subjects who viewed God as a supportive partner experienced better outcomes, whereas subjects who viewed themselves as more autonomous in dealing with the event experienced poorer outcomes. Third, subjects who engaged in religious rituals reported better outcomes than subjects who did not. These rituals included "attendance at religious services, prayer, efforts to avoid the negative event through rituals such as reading the Bible or a focus on the afterlife, attempts to live a less sinful, more loving life, and support from the clergy and other church members" (p. 815). Finally, those subjects who demonstrated an "intrinsic spiritually-oriented approach," or an inherent search for spiritual support through religion, experienced better outcomes than those who did not possess this approach (p. 816).

Through his studies on spirituality and coping, Pargament came to define religious coping as "efforts to understand and deal with life stressors in ways related to the sacred. The term 'sacred' refers not only to traditional notions of God, divinity or higher powers, but also to other aspects of life that are associated with the divine or are imbued with divine-like qualities" (Pargament, Feuille, and Burdzy, 2011, p. 52). His theory includes the following important points: 1) religious coping is multifunctional in that it serves to provide such aspects of life as meaning and identity, in addition to the quest for the sacred; 2) religious coping is multimodal in that it is transmitted through actions, feelings, thoughts, and relationships with others; 3) religious coping changes and evolves over time and circumstances; 4) religious coping can result in both positive and negative outcomes; 5) "religious coping may add a distinctive dimension to the coping process by virtue of its unique concern about sacred matters"; and 6) religious coping can contribute to our understanding of the relationship between religion and well-being, particularly when examining individuals undergoing stressful life events" (p.53).

Horstmann and Tonigan (2000) examined spiritual coping among AA members. They proposed that spiritual coping is not stagnant; rather, it changes among AA members as they move through the 12 steps. They based their study on the three spiritual coping styles outlined by Pargament et al. (1988): Self-Directing, Deferring, and Collaborative. These spiritual coping styles align closely with the concept of locus of control discussed earlier. The Self-Directing style is one in which the individual takes responsibility for solving problems without the direct involvement of God, although Pargament et al. (1988) stress that this style is not anti-religious. "Rather, God is viewed as giving people the freedom and resources to direct their own lives" (p. 91). The Deferring style, on the other hand, involves direct reliance upon God to make the decisions, and the individual waits for action from God. Finally, the Collaborative style involves

the individual actively working in conjunction with God to solve problems, where "neither the individual nor God is seen as a passive participant" (p .92).

Using these three spiritual coping styles, Horstmann and Tonigan (2000) proposed that AA members evolve through these styles as they progress through the 12 steps. They hypothesized that the first three steps require the individual to adopt a more Deferring style, with a major emphasis on powerlessness and surrender. They state that steps four through twelve involve the development of an increasingly more Collaborative coping style, and the authors predicted that a more Collaborative style would be associated with greater AA involvement (e.g., having and being a sponsor), length of sobriety, and progression through the 12 steps. They found that coping style was not related to progression through the 12 steps; however, there was a negative relationship between a Deferring coping style and AA involvement. They found a positive relationship between a Collaborative coping style and length of sobriety. The authors concluded, "longevity and participation in AA appeared to be related with shifting preferences in spiritual coping style, but actual step work was not" (p. 81), and they stated that their lack of an adequate measure of step work may explain this lack of significance. Further exploration in this area may shed more light on spiritual change and development among AA members as they progress through the program.

The perspective on spiritual coping in the literature has indeed shifted away from the overly simplistic notion that people possess one certain type or style of religious coping that they employ under stressful circumstances (Pargament, et al., 1992). Instead, spiritual coping is increasingly viewed among researchers as a dynamic, situation-specific process. Pargament et al. (1992) state:

> In short, religion operates in coping when generalized resources are translated into situation-specific activities. From this perspective, situation-specific religious coping efforts are critical mediators of the relationship between specific life events, generalized resources, and event outcomes (p. 505).

From this perspective, religious coping can be studied in terms of its patterns and the interrelationships among different types of religious coping methods. Pargament, Smith, Koenig, and Perez (1998) identified two broad overarching categories of coping patterns, each of which are comprised of many different coping methods: positive religious coping patterns and negative religious coping patterns. Positive religious coping patterns are based upon "a sense of spirituality, a secure relationship with God, a belief that there is meaning to be found in life, and a sense of spiritual connectedness with others" (p. 712). On the other hand, negative religious coping patterns are based upon "a less secure relationship with God, a tenuous and ominous view of the world, and a religious struggle in the search for significance" (p. 712).

The Brief RCOPE. Pargament et al. (1998) used these two constructs of religious coping as the basis of the Brief RCOPE, a 14-item measure of religious coping that was developed using three different samples of people experiencing different life stressors: a sample of church members in Oklahoma City at the time of the bombing of the federal building, a sample of college students experiencing a significant life event, and a sample of hospital patients experiencing a significant medical illness. Among these samples, the authors found that subjects more frequently employed positive than negative coping methods. Positive religious coping methods were more strongly related to fewer psychological distress symptoms, greater spiritual and psychological growth due to the stressors, and greater cooperativeness as reported by the interviewers. Negative religious coping methods more strongly related to emotional distress,

poorer quality of life, greater psychological distress symptoms, and more callousness towards others. Unexpectedly, poorer physical health was associated with higher levels of both positive and negative religious coping methods. The Brief RCOPE was found to be promising as a measure of positive and negative religious coping methods, and it demonstrated good internal consistency and discriminant validity. A detailed description of the development of the Brief RCOPE and its psychometric properties will be presented in the next chapter.

Purpose of the Present Study

The AA literature exploring locus of control and self-efficacy generally shows that an internal locus of control and high self-efficacy to resist drinking are associated with greater abstinence and better overall outcomes. Some of this research has viewed an internal locus of control and high drinking-related self-efficacy as concepts that are in opposition to the emphasis on an external higher power that is essential to the AA program. However, research on spirituality among AA members suggests that these concepts may not be in opposition with one another; rather, they may be interacting and complimentary components at work within the AA program. The purpose of the present study was to better clarify the relationships among locus of control, self-efficacy, and spirituality among AA members.

The first research question explored in this study was: What levels and characteristics of locus of control, abstinence self-efficacy, and religious coping style are shown by a community sample of AA members? The second broad research question addressed: To what extent are the dimensions of locus of control, abstinence self-efficacy, and religious coping style related to one another in a community sample of AA members? The third research question considered was: How do locus of control, abstinence self-efficacy, and religious coping style relate to self-reported years of sobriety in a community sample of AA members?

The disease model of alcoholism, which is an essential component of the AA program, aligns with an externally driven perspective on alcoholism. Therefore, AA members are taught that their alcoholism is a disease or an allergy that is not within their own control, and they come to focus on a higher power to assist them with abstaining from alcohol. However, theoretical and empirical evidence would suggest that internal locus of control is associated with enhanced outcomes in regard to alcohol abuse or dependence. Therefore, it was hypothesized that internal locus of control would be positively associated with abstinence self-efficacy in a community sample of AA members. A corollary of this hypothesis was that external locus of control was expected to have a negative relationship with abstinence self-efficacy among AA members. The locus of control measure utilized in this study, the DRIE, is a bipolar instrument in that it measures both internal and external locus of control on the same scale: lower scores represent more internal locus of control while higher scores represent more external locus of control. Therefore, a negative relationship between the DRIE and the self-efficacy measure would support the overall hypothesis that abstinence self-efficacy is expected to be associated with internal, not external, locus of control.

Considerable research has found that religious coping style is associated with a variety of important health-related outcomes. Therefore, it was hypothesized that positive religious coping would be correlated with higher levels of abstinence self-efficacy. In addition, it was hypothesized that negative religious coping would be inversely associated with abstinence self-efficacy among AA members. Positive religious coping was also predicted to be correlated with internal locus of control among AA members. Negative religious coping was hypothesized to be associated with external locus of control.

Hypotheses were also made in regard to locus of control, abstinence self-efficacy, and self-reported length of sobriety. Some research suggests that locus of control becomes more internal and abstinence self-efficacy increases over the course of treatment. Although community-based AA meetings are not considered formal treatment, it was hypothesized that internal locus of control would be positively correlated with self-reported length of sobriety among AA members. Similarly, it was hypothesized that abstinence self-efficacy would be positively correlated with self-reported length of sobriety.

Chapter 2: Method

Research Design

The research design for this study was correlational in nature, with the objective of examining the extent to which scores on measures of self-efficacy, locus of control, and spirituality correlated among the sample of AA members. The study included descriptive and exploratory elements as well, given that some of the measures have not been widely used among persons in a self-help recovery program. The researcher anticipated that the findings would be useful to clinicians and researchers alike, as well as to others interested in psychological and spiritual factors associated with recovery from alcohol abuse or dependence.

Participants

The sample was collected by the researcher at a variety of Alcoholics Anonymous (AA) meetings in Sacramento and San Francisco, as well as the areas surrounding these cities from January 2012-January 2013. The researcher also attended one meeting in suburban Washington state. The researcher attempted to identify AA meetings that would likely encompass men and women of all ages and from diverse backgrounds in order to obtain a heterogeneous sample.

The total sample contained 76 subjects, with an age range between 18 and 71 years old, and a mean age of 39.29 years old (SD=12.94). 56.6% of the sample was female, and 43.4% was male. Most of the subjects identified themselves as Caucasian (84.2%), while 2.6% identified as African-American, 3.9% identified as Latino/Hispanic, 5.3% identified as Native American, and 3.9% identified as Multiracial or Other. The relationship status of the sample was as follows: 35.5% were single, 47.4% were married or partnered, and 17.1% were divorced. 65.8% of the sample was employed, while 23.7% was unemployed, 5.3% of subjects were students, and 3.9% were retired. One subject did not indicate employment status.

A little less than half of the subjects (46.1%) indicated that their drug of choice was alcohol only, while 50% indicated that their drug of choice was alcohol and another drug, and 3.9% indicated that a drug other than alcohol was their drug of choice. Most subjects (85.5%) reported that they had abused drugs other than alcohol at some point in their lives. Other drugs that people had abused included marijuana (53.9%), prescription painkillers (21.1%), other opiates (11.8%), hallucinogens (18.4%), prescription amphetamines (1.3%), other amphetamines/stimulants (46.1%), benzodiazepines (7.9%), miscellaneous prescription drugs (6.6.%), and miscellaneous non-prescription drugs (7.9%).

The most frequent length of sobriety for this sample was 1-3 years (21.1%), with an overall mean of 3.41 years. 35.3% of the subjects reported a sobriety period between one month and one year, while 10.5 % reported less than 30 days of sobriety. 6.6% reported sobriety between 3-6 years; 5.3% reported sobriety between 6-10 years; and 13.2% reported sobriety of greater than 10 years. Six subjects (7.9%) reported N/A to this question, indicating that they were not sober at the time. Possible explanations for this are that some individuals attending the AA meetings may have been mandated to do so by the court system, and some individuals may have been exploring AA, but were not yet active members and not yet abstaining from alcohol. It is also possible that some subjects were active AA members who recently experienced a relapse. There is no way to know why the subjects in this sample indicated that they were not sober because this factor was not integrated into the questionnaire. 31.6% of subjects reported zero relapses ($n = 24$), while 30 subjects (39.6%) reported between one and three relapses. Five subjects did not report the number of relapses, and the remaining 17 subjects reported a range of relapses from 4-20.

The majority (n = 40; 52.6%) of subjects reported that they had not attended formal treatment aside from AA for their addiction issues. The mean length of AA membership was 4.15 years, and AA membership tended to fall in a similar distribution to length of sobriety. Most subjects (55%) reported having an AA sponsor, while only 27.6% (n = 21) reported sponsoring others. A relatively large number of subjects (n = 17; 22.4%) did not respond to this question, and it is possible that they did not see the question due to the way it was formatted on the questionnaire form. Most subjects (n = 40; 52.6%) reported reading the Big Book often, while 28.9% (n = 22) reported reading it occasionally, and 18.4% (n = 14) reported never reading it. The majority of subjects (n = 60, 78.9%) also reported working the twelve steps, and the most frequently reported current step was step 4 (n = 10, 13.2%). However, half of the subjects (n = 38) did not respond to this question, and it is possible this was due to the formatting of the questionnaire. Subjects reported a range between 0-14 times cycling through the twelve steps, with a mean of 2.49 times. The majority of the subjects (n = 51, 67.1%) reported that they participate in service work. The number of meetings attended per month ranged from 0-90, with a mean of 15.18 meetings per month (SD = 15.21).

Instruments

Demographic information. For the purposes of this study, the researcher developed a questionnaire that requests demographic information such as sex, age, marital status, occupation, employment status, education, and ethnicity. The questionnaire included items that ask participants to identify their substance or substances of choice, length of sobriety, number of relapses, and exposure to formal substance abuse treatment. In addition, questionnaire items explored the degree of involvement with AA, including number of meetings attended per month, and level of participation in AA activities such as service work, sponsorship, and reading of AA

materials. Finally, the questionnaire included questions regarding respondents' religious affiliation, belief in God or a higher power, and experiences with religion in childhood. A copy of the questionnaire can be found in Appendix A.

The Brief RCOPE. Following the researcher's questionnaire, participants responded to the brief version of the RCOPE, which measures religious coping styles. The researcher obtained permission to utilize this instrument from its author, Kenneth I. Pargament, Ph.D., via email communication. A copy of the Brief RCOPE can be found in Appendix B.

The original RCOPE was developed through Pargament's studies on religious coping with negative, stressful life events, as well as clinical interviews with individuals who were using religious coping methods in the face of a stressful life event (Pargament et al., 1990; Pargament et al., 1992). The original RCOPE was too lengthy to be practical or efficient, and therefore, Pargament (1997) developed the Brief RCOPE, which consists of a total of 14 items. Factor analysis of the original RCOPE revealed two main subscales, the positive religious coping subscale (PRC) and the negative religious coping subscale (NRC) (Pargament, Koenig & Perez, 2000). Each of these subscales is comprised of seven items, which make up the Brief RCOPE. The PRC subscale measures "a sense of connectedness with a transcendent force, a secure relationship with a caring God, and a belief that life has a greater benevolent meaning" (Pargament, et al., 2011, p. 58). On the other hand, the NRC subscale reflects negative and punitive views of God, perceptions of the devil's involvement in life stressors, and spiritual and religious doubt and struggles.

Internal consistency. In order to examine its psychometric properties, Pargament, et al. (2011) reviewed 30 studies that used the Brief RCOPE. They found that the Brief RCOPE demonstrated good internal consistency among diverse samples, with higher alpha values for the

PRC subscale than for the NRC subscale. The PRC alpha values ranged from a high of 0.94 in a sample of adults residing in the United Kingdom, to a low of 0.67 with a sample of Nazarene university students for whom the Brief RCOPE was adapted from a four-point to a seven-point Likert scale. The NRC alpha values ranged from 0.90 in a sample of cancer patients to 0.60 in a sample of Pakistani undergraduate students.

Concurrent validity. Pargament, et al. (2011) examined the concurrent validity of both PRC and NRC subscales. They found that the PRC demonstrated significant positive relationships with other measures of positive constructs such as spiritual, psychological, physical, and social well-being. The PRC was also associated with some negative constructs; however, such associations were not necessarily indicative of poorer functioning. For example, in one study of trauma victims the PRC was positively correlated with post-traumatic growth, but not with PTSD symptoms. The NRC, on the other hand, was generally associated with negative constructs such as anxiety, depression, PTSD symptoms, negative affect, psychological distress, somatization, and pain. The NRC was rarely positively associated with indices of well-being.

Predictive validity. Pargament, et al. (2011) found only two studies that addressed the predictive validity of the Brief RCOPE. The first study examined associations between the Brief RCOPE and quality of life among a sample of outpatients with HIV. The results indicated that baseline PRC was positively associated with quality of life and negatively associated with deterioration in quality of life at follow-up. The second study examined PRC and NRC in a sample of adults preparing to undergo cardiac surgery. The results indicated that PRC prior to surgery was not associated with post-surgery hostility, but NRC prior to surgery was positively associated with post-surgery hostility.

Incremental validity. Pargament, et al. (2011) found support for the incremental validity of the Brief RCOPE among some of the studies that they reviewed. They found "evidence for the incremental validity of PRC in predicting well-being after controlling for age and gender as well as a number of other secular variables, including race, financial worries, having children, and other psychosocial constructs" (p.67).

In addition, the NRC demonstrated incremental validity among many of the studies. Overall, they found that the NRC predicted a significant amount of variance in such constructs as anxiety, depression, paranoid ideation, obsessive-compulsiveness, somatization, and quality of life, even after demographic variables (e.g., age, gender, education, ethnicity, etc.), psychological variables, and indicators of general religiousness were controlled for.

The Drinking-Related Locus of Control Scale (DRIE). Next, participants responded to the Drinking-Related Locus of Control Scale (DRIE), a 25-item measure of an individual's locus of control surrounding his or her drinking behavior and attitudes towards drinking and recovery (Donovan & O'Leary, 1978). The measure is comprised of 25 pairs of statements: one representing an internal locus of control, and one representing an external locus of control. The participants must choose which statement of the pair best represents their current attitude and behavior regarding alcohol and drinking. Scores range from completely internal (0) to completely external (25). This instrument is not copyrighted and can be reprinted for use in research without permission. A copy of the DRIE can be found in Appendix C.

Factor analysis of the DRIE by Donovan and O'Leary (1978), using inpatient subjects only, yielded three subscales: Intrapersonal Control, Interpersonal Control, and General Control. Hirsch, McCrady, and Epstein (1997) administered the DRIE to outpatient subjects and found that the scores were skewed toward the internal direction, with a range from 0-15. Five of the

items were endorsed as internal by 95% or more of the subjects, and an additional five items were endorsed as internal by at least 85% of subjects. Factor analysis of this data revealed only a single factor and neglected to support the three factors identified by Donovan and O'Leary (1978). The authors suggest that the control orientation of inpatient alcoholic subjects may differ from that of outpatient alcoholic subjects.

Internal consistency. Donovan and O'Leary (1978) examined the internal consistency of the DRIE among a sample of 120 male veterans participating in inpatient treatment for alcoholism in the Seattle area. They reported alpha and Kuder-Richardson coefficients of .77, and a Spearman-Brown split-half coefficient of .70. These findings indicate a fairly high level of test reliability.

Hirsch, et al. (1997) examined the internal consistency of the DRIE among 93 male subjects who met DMS-III-R criteria for alcohol abuse or dependence, and who were seeking outpatient marital therapy with a non-alcoholic, female partner. They found Cronbach alpha coefficients of .76, .76, and .53 for the DRIE total scale, Intrapersonal subscale, and Interpersonal subscales, respectively. The General Control subscale had a reliability coefficient of -.21, indicating no significant relationship among the three items on this scale, and suggesting that this scale does not measure a single construct.

Concurrent validity. In order to establish the concurrent validity of the DRIE, Donovan and O'Leary (1978) compared DRIE scores with other measures of control orientation (i.e., Rotter's I-E scale, Mirel's Personal Control and Sociopolitical Control subscales, Levenson's Multidimensional Locus of Control Scale, and Tiffany's Experienced Control Scale). They found that the DRIE Intrapersonal Control, Interpersonal Control, and General Control subscales, as well as the DRIE total scores, were significantly and positively related to Rotter's I-E scores

(.21, .23, .25, and .28 respectively). The DRIE Intrapersonal Control, Interpersonal Control, and General Control subscales, as well as the DRIE total scores, were also significantly and positively related to Mirel's I-E Personal Control subscale scores (.16, .18, .29, and .21 respectively). These results indicate a modest amount of shared variance between the DRIE and Rotter's I-E scales, and the DRIE and the Personal Control subscale of Muriel's I-E scale.

The Intrapersonal subscale of the DRIE showed no significant correlation with any of Levenson's subscales. The Interpersonal subscale of the DRIE correlated negatively with Levenson's Internal subscale, but positively with Levenson's Chance subscale. The authors state, "These data indicate that individuals having an internal locus of drinking control in interpersonal situations perceive personal events as under their own control" (Donovan & O'Leary, 1978, p. 770). The General Control subscale of the DRIE was positively correlated with both Levenson's Powerful Others and Chance subscales, suggesting that individuals who score high on the General Control subscale tend to rely on chance or powerful others in order to maintain their sobriety. Finally, the total DRIE scale was positively related to Levenson's Chance subscale, indicating that individuals with an external locus of control tend to view life events as controlled by chance.

Scores on the Internal Ratio subscale of Tiffany's Experienced Control Scale were negatively related to scores on the DRIE Interpersonal Control subscale (-.17) and the DRIE total scale scores (-.17). In addition, scores on Tiffany's External Ratio subscale were negatively related to the DRIE Intrapersonal Control subscale (-.27), the DRIE Interpersonal Control subscale (-.26), and the DRIE total scores (-.33). The DRIE General Control subscale was not correlated with either of Tiffany's subscale scores.

In addition, Donovan and O'Leary (1978) compared DRIE scores to scores on the Beck Depression Inventory (BDI), and they found that individuals with an external locus of control scored significantly higher on measures of depression than individuals with an internal locus of control. External locus of control was also associated with "more psychophysiological symptomatology, self-debasement, pessimism and suicidal ideation, and indecision-inhibition" (p. 771).

Finally, the authors examined the DRIE scores in relationship to scores on the Minnesota Multiphasic Personality Inventory (MMPI). They found that externally-oriented locus of control scores were indicative of greater psychopathology on the MMPI, as indicated by elevated scores on the F scale, as well as the hypochondriasis (Hs), depression (D), hysteria (Hy), psychopathic deviate (Pd), paranoia (Pa), psychasthenia (Pt), schizophrenia (Sc), social (Si), manifest anxiety (At), and dependency (Dy) scales of the MMPI.

Discriminant validity. Donovan and O'Leary (1978) also compared the DRIE scores to measures of cognitive functioning (i.e., Shipley-Hartford Scale, Trail Making Test, and WAIS-equivalent IQ) among the same sample of 120 men. The DRIE demonstrated good discriminant validity, as only a few significant correlations between DRIE scores and measures of intellectual functioning were found, and these correlations were found on the Interpersonal Control subscale. The Interpersonal Control subscale was significantly correlated with educational level (-.19), Shipley verbal scores (-.25), and conceptual quotient scores (.21). This indicates that "individuals with higher educational levels, greater verbal skills, and lower conceptual quotients appeared to have a more internal locus of control with respect to drinking situations involving interpersonal aspects" (p. 768).

Construct validity. Donovan and O'Leary (1978) examined the construct validity of the DRIE by comparing 56 male alcoholics with 28 male non-alcoholic control subjects. All subjects completed Rotter's I-E scale (total score and Personal Control subscale score), the DRIE, and the BDI. The results indicated no significant difference between alcoholic and nonalcoholic subjects on the I-E total or Personal Control subscales. However, the alcoholic subjects scored as more externally oriented than the non-alcoholic controls, and this difference remained even when depression level was controlled as a covariate. This indicates that the DRIE may tap into a dimension of locus of control that is unique to drinking-related behavior.

The Alcohol Abstinence Self-Efficacy Scale. The Alcohol Abstinence Self-Efficacy Scale (AASE) is the final measure that was included in the packet of research materials given to each participant (DiClemente, et al., 1994). This measure is in the public domain and can be utilized without permission. The AASE is a 40-item instrument that assesses a participant's perceived level of temptation to drink and perceived confidence to abstain from drinking in a variety of situations and settings. Participants rated how tempted they would be to drink on a Likert scale from 0 ("not at all") to 4 ("extremely") under various circumstances. They then rate their confidence in abstaining, or abstinence self-efficacy, on the same scale and under the same circumstances. A copy of the AASE can be found in Appendix D.

Factor analysis of the AASE yielded four subscales for both the efficacy items and the temptation items: Negative Affect (NA), Social-Positive (SP), Physical and Other Concerns (PO), and Withdrawal and Urges (WU) (DiClemente, et al., 1994). The NA subscale measures both intrapersonal and interpersonal negative affect. The SP subscale taps into alcohol use in social situations, as well as the use of alcohol to enhance positive mood. PO, the third subscale, consists of items relating to physical discomfort, pain, concern about others, and dreams of

Procedures

The researcher obtained approval from Pepperdine University's Graduate and Professional Schools Institutional Review Board (IRB) prior to the collection of any data. Upon approval from the IRB, the researcher searched for AA meetings that were likely to yield a diverse sample. The researcher spoke to the group leader in each meeting, and obtained permission from the group leader prior to the distribution of any questionnaire materials. Upon gaining permission from the group leader, the researcher briefly described to the group the purpose of the questionnaire, and distributed the questionnaire to willing participants only. The voluntary nature of participation in the study was stressed in the presentations, as was the researcher's commitment to protecting the confidentiality of all participants. Participants were offered a $5.00 Starbuck's gift card for their participation. The questionnaires took approximately 20-30 minutes to complete. Participants placed their questionnaires in sealed envelopes before returning them to the researcher in order to preserve confidentiality, and the researcher collected all questionnaires as soon as they were completed. Participants were not permitted to take the questionnaires home to complete them.

Data Analysis

The data analysis included calculation of descriptive statistics for the demographic variables collected via the questionnaire and for all of the measures administered. Internal consistency reliability coefficients were calculated on each of the measures. In addition, correlation and multinomial logistic regression were utilized in order to determine the strength and direction of relationships among the variables of interest stated in the hypotheses.

Chapter 3: Results

The purpose of the present study was to explore the levels and characteristics of locus of control, abstinence self-efficacy, and religious coping style among a sample of community AA members. Secondly, this study was aimed at evaluating the relationships among these three constructs. Finally, it explored the relationship between length of sobriety and locus of control, and length of sobriety and abstinence self-efficacy.

Descriptive Statistics

Prior to reporting the results as related to the research hypotheses, the researcher will provide additional data from the questionnaire regarding participants' experiences in AA, as well as their religious and spiritual beliefs. When asked how often subjects struggle with or disagree with the principles of AA, 32 subjects (42.1%) responded "never," 34 subjects (44.7%) responded "sometimes," 8 subjects (10.5%) responded "often," and 2 subjects (2.6%) responded "always." Nearly half of the sample (n = 36, 47.4%) reported "little or no difficulty" integrating with and feeling a part of AA, while 23 subjects (30.3%) reported "minor difficulty," 13 subjects (17.1%) reported "moderate difficulty," and 2 subjects (2.6%) reported "severe difficulty." One subject (1.3%) did not respond to this question. In addition, most subjects (n = 56, 73.7%) reported being "highly satisfied" with AA as a program of recovery, while 12 subjects (15.8%) reported being "mildly satisfied," 6 subjects (7.9%) reported being "dissatisfied," and again one subject (1.3%) did not respond to this question. The majority of subjects (n = 51, 67.1%) also reported that their involvement in AA has "met my needs very well," while 11 subjects (14.5%) reported that AA "met some of my needs," 10 subjects (13.2%) reported that AA "met few of my needs," one subject (1.3%) reported that AA "met none of my needs," and one subject (1.3%) did

not respond. Overall, this data indicates that this sample of community AA members was relatively satisfied with AA as a program, generally agreed with its principles, and reported little to no difficulty integrating into AA. These results are to be expected because the likelihood of individuals who are highly dissatisfied with AA, and who strongly disagree with its principles, continuing to attend meetings is low.

Subjects were also asked about their religious and spiritual beliefs. Most of the subjects (n = 57, 75%) did not identify themselves as religious, but most (n = 62, 81.6%) did identify themselves as spiritual. Only two subjects (2.6%) identified as atheist, and five subjects (6.6%) identified as agnostic. Two subjects (2.6%) endorsed "other religious beliefs." An overwhelming majority of subjects (n = 68, 89.5%) indicated that they believe in God or a Higher Power. Most subjects (n = 62, 81.6%) reported that they were raised in a household with religious beliefs during childhood, and 52.6% (n = 40) of subjects reported that they maintain the same or similar beliefs today. The results also indicated that most subjects have struggled at some point in their lives, to some degree, with the religious beliefs that they were taught as a child: 27 subjects (35.5%) reported that they struggled "sometimes," 18 (23.7%) reported that they struggled "often," and 13 (17.1%) reported that they struggled "always." Only 14 subjects (18.4%) reported that they "never" struggled and three subjects (3.9%) reported N/A. It is interesting that although most subjects (n = 58, 76%) indicated some degree of struggling with the religious beliefs that they were taught in childhood, over half of subjects reported that they maintain similar beliefs today. The majority of subjects also identified themselves as spiritual and indicated a belief in God or a Higher Power, consistent with the basic tenets of AA.

The first goal of this study was to describe the characteristics of locus of control, abstinence self-efficacy, and religious coping style among this sample of AA members. The

results indicate a mean Drinking-Related Locus of Control (DRIE) total score of 6.42 (*SD* = 5.78) for the sample. DRIE scores ranged from 0 to 25, with higher scores indicating an external locus of control, and lower scores representing an internal locus of control. Therefore, overall, this sample of AA members tended to provide responses that were more internally-oriented. The scores for the three DRIE subscales also indicated responses that are consistent with an internal locus of control. The internal consistency reliability of the DRIE total scale was excellent (Cronbach's α = .90), and subscales also yielded very good alpha coefficients, indicating that the DRIE demonstrated good internal consistency. See Table 1 for a detailed list of descriptive statistics.

Table 1

Descriptive Statistics for the DRIE, AASE and RCOPE

	Mean	SD	Cronbach's α
DRIE			
Total Score	6.42	5.78	.90
Factor 1	2.09	2.24	.82
Factor 2	1.68	1.95	.80
Factor 3	.39	.73	.55
AASE Temptation Scale			
Total Score	30.75	21.01	.97
Negative Affect	8.43	5.84	.94
Social/Positive	9.95	7.02	.97
Physical/Other	4.72	4.91	.90
Cravings/Urges	7.64	5.48	.89
AASE Confidence Scale			
Total Score	52.38	22.34	.98
Negative Affect	12.53	5.95	.94
Social/Positive	11.49	6.92	.97
Physical/Other	14.70	5.96	.93
Cravings/Urges	13.67	5.45	.91
RCOPE Positive Scale	14.37	5.33	.90
RCOPE Negative Scale	5.64	4.71	.83

The results of the Alcohol Abstinence Self-Efficacy (AASE) Temptation scores indicate that subjects in this sample experienced a low to moderate level of temptation to drink in various situations. The Temptation total scores ranged from 0 to 80, with a mean of 30.75 (SD = 21.01). Higher scores indicate a greater level of temptation to drink. Analysis of the Temptation subscales reveals that social/positive factors had the highest level of temptation with a mean of 9.95 (SD = 7.02), followed by negative affect with a mean of 8.43 (SD = 5.84), cravings and urges with a mean of 7.64 (SD = 5.48), and physical and other concerns with a mean of 4.72 (SD = 4.91). The subscale scores ranged from 0 to 20.

Scores on the AASE Confidence scales indicated that the subjects experienced a moderate level of confidence that they can abstain from drinking in a variety of situations. The mean Confidence total score was 52.38 (SD = 22.34). Scores ranged from 0 to 80, with higher scores indicating a greater amount of confidence. The Confidence subscales revealed that subjects had the most confidence with regard to physical and other concerns (M = 14.70; SD = 5.96), followed by cravings and urges (M = 13.67; SD = 5.45), negative affect (M = 12.53; SD = 5.95), and then social/positive situations (M = 11.49; SD = 6.92). Overall, the results demonstrated that the subjects in this sample appear to have moderate temptations to drink, yet they are fairly confident that they can abstain. Social and positive situations (e.g., going on vacation, being at a party, seeing others drink) were the most tempting situations, and were the situations in which subjects reported the least amount of confidence to abstain. On the other hand, physical and other concerns (e.g., having a headache, feeling tired, experiencing physical pain or injury) were the least tempting situations, as well as the situations in which subjects experienced the most confidence.

The 40-item AASE demonstrated a very good overall internal consistency level of 0.87. The 20-item AASE Temptation total score yielded an excellent alpha coefficient of 0.97, as did the 5-item Temptation subscales. The 20-item Confidence total score also indicated an excellent alpha level of 0.98, as did the 5-item Confidence subscales (see Table 1). These results support the notion that the items on the AASE are reliably measuring the same construct.

The results of the brief RCOPE indicated that the subjects in this sample utilized positive religious coping methods more than negative religious coping methods. Positive religious coping scores ranged from 0 to 21 with a mean of 14.37 ($SD = 5.33$). Negative religious coping scores ranged from 0 to 19 with a mean of 5.64 ($SD = 4.71$). The RCOPE yielded a total alpha coefficient of 0.84, which indicates good internal consistency. The Positive subscale demonstrated excellent internal consistency, with an alpha level of 0.90, while the Negative subscale demonstrated good internal consistency with an alpha level of 0.83. Overall the RCOPE demonstrated very good levels of internal consistency.

Correlations

The first research hypothesis was that internal locus of control would be significantly associated with abstinence self-efficacy in a community sample of AA members. A negative correlation between the DRIE total score and the AASE Confidence Scale would support this hypothesis because lower DRIE scores reflect internal locus of control while higher AASE scores indicate greater self-efficacy to abstain. The results indicated a moderately strong negative correlation between the DRIE total score and the AASE Confidence score, $r(74) = .-.58$, $p < .01$. The results also indicated moderate-strength negative correlations between the DRIE total score and each of the subscales of the AASE Confidence Scale (see Table 2). These results

were highly significant, and therefore represent strong support for the hypothesis that internal locus of control would be associated with abstinence self-efficacy in this sample.

Table 2

Correlation Coefficients for the DRIE and the AASE

	r
AASE Confidence Scale	
Total Score	-.58**
Negative Affect	-.50**
Social/Positive	-.55**
Physical/Other	-.48**
Cravings/Urges	-.61**
AASE Temptation Scale	
Total Score	.74**
Negative Affect	.66**
Social/Positive	.67**
Physical/Other	.71**
Cravings/Urges	.64**

** $p<.01$

The second research hypothesis was that positive religious coping would be correlated with higher levels of abstinence self-efficacy. A positive correlation between the positive RCOPE Scale and the AASE Confidence Scale would lend support to this hypothesis. The results indicated a statistically significant, moderately strong positive relationship between these two scales, $r(74) = .40, p < .01$, which therefore supported to the hypothesis that positive religious coping strategies would be associated with greater abstinence self-efficacy in this sample.

The next research hypothesis was that negative religious coping would be associated with lower levels of abstinence self-efficacy. A negative correlation between the negative RCOPE

Scale and the AASE Confidence Scale would lend support to this hypothesis. The results indicated that there was no significant relationship between the negative RCOPE Scale and the AASE Confidence Scale, $r(74) = -.06, p > .05$. Therefore, this hypothesis was not supported, and among this group of community AA members, a negative religious coping style was not associated with lower levels of abstinence self-efficacy.

The fourth hypothesis was that positive religious coping would be positively associated with internal locus of control. A negative relationship between the positive RCOPE Scale and the DRIE Total Scale would lend support to this hypothesis. The results indicated that there was a statistically significant negative relationship between these scales, $r(74) = -.33, p < .01$. The researcher's hypothesis was therefore supported.

The fifth research hypothesis was that negative religious coping would be associated with external locus of control. A positive correlation between the negative RCOPE Scale and the DRIE Total Scale would support this hypothesis because higher DRIE scores reflect external locus of control. The results indicated that there was no significant relationship between these scales, and this hypothesis was not supported, $r(74) = .10, p > .05$.

The final hypotheses concerned locus of control, abstinence self-efficacy, and reported length of sobriety. Spearman Rho coefficients were used because the length of sobriety time was ordinal data that was grouped into blocks of time (e.g., 1-30 days, 1-6 months, etc.), and therefore Pearson correlation coefficients were not appropriate. It was hypothesized that both internal locus of control and abstinence self-efficacy would be positively associated with length of sobriety. A negative relationship between the DRIE Total Scale and length of sobriety would support the first hypothesis. The results indicated a significant negative correlation between the

DRIE total score and length of sobriety, $r(74) = -.40, p < .01$). Greater lengths of sobriety were in fact associated with a more internal locus of control.

The results also provided support for the hypothesis that length of sobriety would be positively associated with abstinence self-efficacy. A positive relationship between the AASE Confidence Scale and length of sobriety would support this hypothesis. The results indicated that there was a statistically significant, positive correlation between length of sobriety and the AASE Confidence Scale scores, $r(74) = .39, p < .01$.

Regression Analysis

Although the evidence indicated a positive relationship between length of sobriety and an internal locus of control, and a positive relationship between length of sobriety and abstinence self-efficacy, regression analysis was conducted in order to further explore these relationships. Specifically, the researcher examined the ability of internal locus of control and abstinence self-efficacy to predict length of sobriety in the present sample.

Multinomial Logistic Regression

Model Fit. Logistic regression is a flexible model and "the predictors do not have to be normally distributed, linearly related, or have equal variances within each group" (Mertler & Vannatta, 2001, p.314). Logistic regression can produce improbable results due to multicollinearity or other numerical problems with the data. An analysis of the standard errors for the β coefficients is used to detect numerical problems with the data. Standard errors for the independent variables that are larger than 2.0 indicate that there is a problem with the data. The current results indicated that this was not a problem for the present data set (see Table 3).

Table 3

Parameter Estimates

Current Sobriety Time[a]		β	Std. Error	Wald	df	Sig.	Exp (B)	95% Confidence Interval	
								Lower Bound	Upper Bound
N/A	Intercept	-.719	1.764	.166	1	.683			
	DRETS	.128	.111	1.314	1	.252	1.136	.913	1.414
	Conf. TS	-.016	.027	.335	1	.563	.984	.933	1.039
1-30 Days	Intercept	-1.649	1.925	.734	1	.392			
	DRETS	.232	.113	4.218	1	.040	1.261	1.011	1.574
	Conf. TS	-.015	.029	.259	1	.611	.985	.931	1.043
1-6 Mos.	Intercept	-2.628	1.837	2.045	1	.153			
	DRETS	.197	.103	3.635	1	.057	1.218	.995	1.491
	Conf. TS	.031	.025	1.450	1	.229	1.031	.981	1.084
6-12 Mos.	Intercept	-1.442	1.708	.713	1	.398			
	DRETS	.056	.104	.286	1	.593	1.057	.862	1.297
	Conf. TS	.027	.024	1.255	1	.263	1.028	.980	1.078
1-3 Years	Intercept	.335	1.458	.053	1	.818			
	DRETS	-.056	.105	.280	1	.597	.946	.769	1.163
	Conf. TS	.007	.021	.104	1	.747	1.007	.965	1.050
3-6 Years	Intercept	-3.630	2.627	1.910	1	.167			
	DRETS	.093	.139	.449	1	.503	1.098	.836	1.441
	Conf. TS	.043	.036	1.445	1	.229	1.044	.973	1.121
6-10 Years	Intercept	-11.799	6.281	3.529	1	.060			
	DRETS	.074	.175	.178	1	.673	1.076	.765	1.516
	Conf. TS	.156	.084	3.445	1	.063	1.169	.991	1.378

[a]The reference category is: Over 10 Years

A chi-square test of the model fit indicated that the logistic model was a good fit for this data, $X^2(N = 76) = 34.84$, $p < .002$, and that there was a statistically significant relationship between the independent variables and the dependent variable. The researcher also examined pseudo-R^2 values in order to determine the proportion of variance in the dependent variable that was associated with the independent variables (see Table 4). R^2 values are only appropriate for use in linear regression analyses because the dependent variables are continuous. Logistic regression uses pseudo R^2 values in order to approximate the R^2 statistics used in linear regression (Mertler & Vannatta, 2001). The data yielded relatively low values, indicating that the independent variables helped to explain only some of the variance of the dependent variable.

Overall, these findings indicated that this model was a reasonable fit for the present data and was an appropriate approach for this explanatory analysis.

Table 4

Pseudo R-Square Values

Cox and Snell	.368
Nagelkerke	.375
McFadden	.116

Classification table. The classification table indicates how well the model predicted the actual placement of subjects into each category of length of sobriety (N/A; 1-30 days; 1-6 months; 6-12 months; 1-3 years; 3-6 years; 6-10 years; and over 10 years). The overall correct percentage was 28.9%. That is, this regression model accurately predicted which length of sobriety category subjects would fall into 28.9% of the time. The null model uses the modal percentage to make predictions, which is the 1-3 years category that has a percentage of 21.1%. So the regression model, which included the two predictor variables, improved correct prediction by 7.8% beyond what the null model alone predicted.

Regression coefficients. The results of the logistic regression yielded only one significant result. The DRIE Total Score significantly predicted a difference between the 1-30 days of sobriety category and the over 10 years of sobriety category (see Table 3). For every one unit increase in the DRIE Total Scores, the odds of a subject being in the 1-30 days of sobriety category increased by a factor of 1.261 over the reference group (i.e., the over 10 years of sobriety group). Higher DRIE scores indicate a more external perspective, and therefore, as the DRIE Total Scores became more external, the odds of a subject falling into the 1-30 days group

significantly increased over their odds of falling into the over 10 years of sobriety group. The DRIE Total Score and the AASE Confidence Total Score did not significantly differentiate between any other sobriety categories and the reference category.

Overall, these results lend no support to the hypothesis that abstinence self-efficacy predicts length of sobriety among this community sample of AA members. In addition, locus of control was not a good predictor of length of sobriety, except that it was able to help distinguish between the 1-30 day sobriety group and the over 10 years of sobriety group.

Additional Analyses

Although the AASE Temptation scores were not the focus of this study, the researcher was interested in examining their relationship to locus of control, i.e., the DRIE scores. Pearson correlational analysis indicated a strong positive association between the DRIE total score and the AASE Temptation total score, $r(74) = .74, p < .01$). This means that higher scores on the DRIE, which indicate a more external locus of control, were associated with higher temptation scores. In other words, the greater an individual's external locus of control, the more temptation to drink he or she experienced in the present sample. Similar significant positive correlations were also found between the DRIE total score and the four Temptation subscale scores (see Table 2). This is an interesting area for further research.

Chapter 4: Discussion

The purpose of this study was to examine locus of control, abstinence self-efficacy, and religious coping style in a community sample of AA members in order to better understand aspects of recovery from alcohol problems. The main findings and implications are discussed below, as are limitations of the study and some suggestions for future research directions.

AA Satisfaction

This sample of AA members generally reported high levels of satisfaction with AA as a program, strong agreement with the principles of AA, and little to no difficulty integrating into AA. These results are not surprising because it is unlikely that individuals who do not agree with the principles, or who have had negative experiences with AA, would continue to attend meetings. It is possible that the few people who responded unfavorably about AA were court-ordered to attend meetings or were motivated to complete the survey for the gift card incentive. It would be beneficial for future research to include a question regarding court-ordered attendance in order to differentiate between subjects who are dedicated AA members and subjects who may have no intrinsic interest in AA.

Religious and Spiritual Beliefs

The results of this study revealed interesting information about the religious and spiritual beliefs of this sample. Most of the subjects reported that they were taught some kind of religious beliefs during their childhood. Most subjects also reported some degree of struggling with their childhood religious beliefs, yet a large number reported that they maintain those religious beliefs today. However, most subjects did not identify themselves as religious, rather they identified as spiritual, and almost 90% reported a belief in God or a Higher Power. Perhaps struggling with

religious ideas is a common part of the human experience, and it is possible that the emphasis on spirituality within the AA program tends to attract people who identify themselves as spiritual. It would be interesting to know more about what aspects of religion AA members struggle with, as well as how they define "struggling." This is an interesting area for future research.

Locus of Control

AA members in this sample tended to endorse more internally-oriented locus of control statements. Prior research on locus of control among AA members has yielded conflicting results, but the findings of the present study support research by Emrick (1987) and Emrick et al. (1993) that found that AA members tend to be internally oriented. These results also support Gorsuch's (1993) notion that the reliance upon a Higher Power, which is a large component of the AA program, is not in conflict with an internal orientation. The results suggest that the reliance on a Higher Power among AA members is not a passive reliance; rather, this reliance may empower AA members to feel more in control of their lives and their circumstances.

Self-Efficacy

This sample of AA members reported fairly high confidence to abstain from drinking, and therefore fairly high levels of abstinence self-efficacy. Due to the fact that most subjects also identified as spiritual and reported high levels of a belief in God or a Higher Power, it seems that the reliance on a Higher Power that is inherent in the AA program is not in conflict with the concept of self-efficacy. It might seem logical to hypothesize that AA members would report low levels of self-efficacy related to drinking, due to the belief that a higher power has a significant amount of influence upon one's drinking behavior. However, the present research findings appear to support the argument made by Magura et al. (2003) that self-efficacy is in fact

consistent with the 12 steps of AA, and that the steps promote personal responsibility and empowerment in addition to the reliance on a higher power. It should be noted that the present sample reported an overall mean of 3.41 years of sobriety, indicating considerable experience in dealing with their alcohol problems and substantial apparent success in their approaches.

Self-Efficacy and Locus of Control

The results indicated that abstinence self-efficacy was positively related to an internal locus of control, and therefore negatively related to an external locus of control, as expected by the researcher. Among this sample of AA members, higher levels of abstinence self-efficacy were associated with a more internal locus of control. So subjects who have a lot of confidence that they can abstain from drinking are also more likely to view their life circumstances and outcomes as under their own control. Again, these results lend support to the idea that reliance on a Higher Power is not in conflict with the concept of developing self-reliance and gaining a greater sense of control over one's life and one's drinking behavior.

Religious Coping

Prior research has not focused on Pargament's positive and negative religious coping patterns among community AA members. The results of this study indicate that the subjects in this sample utilized positive religious coping mechanisms frequently, and that they utilized negative religious coping mechanisms relatively infrequently. Positive religious coping patterns are based upon "a sense of spirituality, a secure relationship with God, a belief that there is meaning to be found in life, and a sense of spiritual connectedness with others" (Pargament et al., 1998, p. 712). Overall, this spiritual coping style would appear to be compatible with the broad tenets and principles of AA. On the other hand, negative religious coping patterns are

based upon "a less secure relationship with God, a tenuous and ominous view of the world, and a religious struggle in the search for significance" (p. 712).

Religious Coping and Self-Efficacy

This study also examined the relationship between religious coping and abstinence self-efficacy. The results indicated a significant positive relationship between positive religious coping and abstinence self-efficacy. Therefore, those subjects who endorse a more secure relationship with God or a Higher Power tend to have higher abstinence self-efficacy, i.e., greater confidence in their ability to refrain from drinking. This again provides further support that the reliance upon a Higher Power among AA members is consistent with self-reliance, not in opposition to it. There was no significant relationship found between negative religious coping and self-efficacy. It should be noted that the present sample showed very low endorsement of the negative spiritual coping style. The lack of variance in that measure may have contributed to the lack of any significant findings. More research is needed to determine how or if negative religious coping is related to self-efficacy regarding abstinence from alcohol.

Locus of Control, Self-Efficacy, and Length of Sobriety

The final area of concern for this study was the relationship between length of sobriety and locus of control and self-efficacy. The results of this study found a positive relationship between an internal locus of control and length of sobriety, which is consistent with prior research by Sandoz (1991). In addition, support was found for a positive relationship between length of sobriety and abstinence self-efficacy, which is also consistent with prior research (Morgenstern et al., 1997; Piderman et al., 2008). The present study therefore adds to the body of literature showing that internal locus of control and abstinence self-efficacy are markers of success in recovery from alcohol problems. Alcohol intervention programs that foster and

reinforce these two psychological dimensions may be useful in promoting sustained recovery among individuals with alcohol problems.

An exploratory logistic regression analysis revealed that locus of control differentiated between subjects inthe 1-30 days of sobriety category and those with over 10 years of sobriety. This was an interesting finding and suggested that AA members in the very early stages of sobriety are significantly more likely to endorse an external LOC than are members who have many years of sobriety. This is consistent with findings by Sandoz (1991) that locus of control among AA members became more internal as length of sobriety increased. It would be interesting to further explore the characteristics of groups at different stages of sobriety, and to use other measures of locus of control with these groups to see if similar findings could be obtained. It may be helpful to explore the developmental processes that are associated with long-term sobriety to better understand how dimensions such as locus of control change or develop over time.

Limitations

This study contains several important limitations that must be considered. First, it is based upon self-report measures and therefore potentially subject to a variety of influences, biases, and sources of error, including social desirability responding. In addition, subjects chose to participate in the study and selection factors may have influenced their decisions. For example, AA members with particularly positive or negative reactions to the research topic may have been more motivated to participate than those with more neutral attitudes. Such factors could influence the generalizability of the results. Given that the subjects reported a mean of 3.41 years of sobriety, it may have been that people with more positive experiences in AA and in their alcohol-related recoveries were more motivated to participate.

In addition, the researcher could not ensure that the sample is representative of the greater population of AA members. For example, the researcher was limited to a relatively small geographic area, and the subjects in this area may not be representative of the entire AA population. In fact, the recruitment of subjects was more difficult in the urban San Francisco groups, and more subjects were obtained from suburban Sacramento groups, which tended to be less culturally diverse than the urban AA groups. The researcher observed that group members in the suburban areas tended to congregate and mingle after the meetings, whereas group members in urban areas tended to leave quickly after the end of the meeting. Due to logistical factors, the researcher tended to attend the urban meetings during the day in the work week, and not during weekends and evenings. On the other hand, the researcher attended suburban meetings during a broader array of days and times. Therefore, AA members' busy work schedules in the urban areas could have impacted their ability to stay to fill out a questionnaire, which could account for the lower participation rate in those areas.

Another limitation of this study is that a few participants gave the researcher feedback that they found the questionnaire and the measures too lengthy and time consuming to complete. The gift card incentive sometimes appeared to be helpful in combating this issue; however, several potential subjects agreed to participate, began filling out the questionnaire, but then withdrew from the study due to the time commitment. In addition, several participants gave the researcher feedback that the AASE scale was confusing, and it was difficult to understand the distinction between the temptation and the confidence questions. Furthermore, upon scoring the AASE, the researcher observed that a few subjects appeared to answer "0, Not At All" all the way down both the temptation and confidence subscales, raising questions about whether they completely read the directions or fully understood the questions. However, despite these

potential concerns, a number of significant relationships were obtained among the variables of interest, and the findings did generally appear reasonable and often consistent with previous research.

Another limitation is that, although the DRIE and the AASE scales have both demonstrated good levels of reliability and validity in the studies cited in the present review, they are measures that have not been widely used in prior research, and more research on their usefulness and relevance is needed. The present research design was correlational in nature and the subjects were not randomly assigned to groups or conditions. Therefore, the researcher cannot infer causal relationships between the variables of interest.

Conclusion

Overall, the results of this study provide support for the idea that locus of control may shift or change over the course of sobriety, which may or may not be the result of involvement in AA. Future research should focus more on AA involvement, in addition to length of sobriety, in order to better understand the complex relationship among these variables.

This study also lends support to the idea that the reliance upon a Higher Power that is inherent in the AA program is not in opposition with the idea of self-reliance that is inherent in the concepts of abstinence self-efficacy and internal locus of control. These results suggest that when AA members surrender themselves as powerless over alcohol, and commit to a reliance on an external Higher Power to maintain sobriety, the process may actually enhance their self-efficacy and sense of agency or instrumentality. Exactly how this process occurs is not clear, and it is an area that deserves investigation in future research.

Although AA is not a formal treatment modality, it can be an effective tool for many people. Clinicians who are working with individuals who have addiction problems can

recommend AA as a supplemental part of treatment. In addition, clinicians can assess and discuss levels of self-efficacy and locus of control among their addiction clients, and help clients to shift their cognitive processes in the direction of self-reliance and an internal orientation, as these are constructs that appear to be associated with greater sobriety.

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APPENDIX A

Research Questionnaire

Demographic Information

1. Age: _____
2. Gender: Male_____ Female_____
3. Relational Status: Single____ Married/Partnered____ Divorced____ Widowed____
4. Occupation:_____
5. Employment Status: Employed____ Unemployed____ Student____ Retired____
6. Highest Level of Education Completed: Less Than High School____ GED_____ High School____
   Vocational or Trade School____ Some College_____ Associate's Degree_____ Bachelor's Degree_____
   Some Post Graduate Study____ Graduate or Professional Degree_____
   Please indicate degree: _____
7. Ethnicity: African-American____ Caucasian____ Hispanic/Latino____ Asian American____ Native American____ Other_____

Addiction History/AA involvement

1. What is/are your drugs of choice? _____
2. Do you currently, or have you in the past, abused drugs other than alcohol? Yes_____ No_____
3. If so, please list all drugs that you have abused:_____
4. How long have you currently been clean and sober from all alcohol and drugs? N/A_____ 0-30 days_____
   1-6 months_____ 6-12 months_____ 1-3 years_____ 3-6 years_____ 6-10 years_____ Over 10 years_____
5. How many relapses have you had since your first attempt to quit using substances? _____
6. Apart from AA, have you ever attended a formal inpatient or outpatient treatment or rehabilitation program for alcohol and/or drugs in a hospital, clinic, or recovery center? Yes____ No____
7. How long have you been a member of AA? _____
8. Do you have an AA sponsor? Yes_____ No_____ Do you sponsor others? Yes_____ No_____
9. How often do you read the Big Book? Never_____ Occasionally_____ Often_____
10. Do you work the 12 steps? Yes_____ No_____ If so, what step are you currently on?_____
11. How many times have you cycled through the 12 steps?_____
12. Do you participate in service work (e.g., greeting, meeting set up, chairing meetings, etc.)? Yes_____ No_____
13. How many AA meetings do you attend per month? _____
14. How often do you struggle with or disagree with any of the principles or steps of AA?
    Never_____ Sometimes_____ Often_____ Always_____
15. How much difficulty have you experienced in integrating with and feeling a part of AA?
    Very Little or No Difficulty_____ Minor Difficult_____ Moderate Difficulty_____ Severe Difficulty_____
16. How satisfied are you with AA as a program of recovery?
    Highly Satisfied_____ Mildly Satisfied_____ Dissatisfied_____ Highly Dissatisfied_____
17. To what extent has your involvement with AA met your substance-related recovery needs?
    Met my needs very well_____ Met some of my needs_____ Met few of my needs_____
    Met none of my needs_____

Religious/Spiritual Beliefs

1. Which of the following best describes you? (choose all that apply) Religious_____ Spiritual_____ Atheist_____
   Agnostic_____ Other_____
2. Do you believe in God or a Higher Power? Yes____ No____ Not Sure_____
3. Were you raised in a religious household and/or taught religious beliefs as a child? Yes_____ No_____
4. If so, do you maintain the same or similar religious beliefs today? Yes_____ No_____
5. Throughout your life, how much have you questioned or struggled with the religious beliefs that you were taught as a child? Never_____ Sometimes_____ Often_____ Always_____ N/A_____

APPENDIX B

The Brief RCOPE

Please indicate how often you use the following methods of coping with critical life events on the scale from 0 ("not at all") to 3 ("a great deal")*:

	Not At All			A Great Deal
1. Looked for a stronger connection with God.	0	1	2	3
2. Sought God's love and care.	0	1	2	3
3. Sought help from God in letting go of my anger.	0	1	2	3
4. Tried to put my plans into action together with God.	0	1	2	3
5. Tried to see how God might be trying to strengthen me in this situation.	0	1	2	3
6. Asked for forgiveness for my sins.	0	1	2	3
7. Focused on religion to stop worrying about my problems.	0	1	2	3
8. Wondered whether God had abandoned me.	0	1	2	3
9. Felt punished by God for my lack of devotion.	0	1	2	3
10. Wondered what I did for God to punish me.	0	1	2	3
11. Questioned God's love for me.	0	1	2	3
12. Wondered whether my church had abandoned me.	0	1	2	3
13. Decided the devil made this happen.	0	1	2	3
14. Questioned the power of God.	0	1	2	3

*From "Patterns of positive and negative religious coping with major life stressors," by K. I. Pargament, B. W. Smith, H. G. Koenig & L. Perez, 1998, *Journal for the Scientific Study of Religion, 37,* p. 718. Reprinted with permission.

APPENDIX C

The Drinking-Related Locus of Control Scale (DRIE)

For each of the following items, please choose which statement in each pair most accurately describes your current beliefs and/or behavior with respect to drinking. Please circle either a or b for each pair of statements.

1. a) People drink because circumstances force them to.
   b) One of the major reasons why people drink is because they cannot handle their problems.
2. a) Most people do not realize that drinking problems are influenced by accidental happenings.
   b) The idea that men or women are driven to drink by their spouses is nonsense.
3. a) I feel so helpless in some situations that I need a drink.
   b) Abstinence is just a matter of deciding that I no longer want to drink.
4. a) Trouble at work or home drives me to drink.
   b) I have the strength to withstand pressures at work.
5. a) Without the right breaks one cannot stay sober.
   b) Alcoholics who are not successful in curbing their drinking often have not taken advantage of help that is available.
6. a) Many ties there are circumstances that force you to drink.
   b) There is no such thing as an irresistible urge to drink.
7. a) I get so upset over small arguments that they cause me to drink.
   b) I can usually handle arguments without taking a drink.
8. a) Staying sober depends mainly on things going right for you.
   b) Successfully licking alcoholism is a matter of hard work, luck has little to do with it.
9. a) When I see a bottle, I cannot resist taking a drink.
   b) It is no more difficult for me to resist drinking when I am near a bottle than when I am not.
10. a) Oftentimes, other people drive one to drink.
    b) The average person has an influence on whether he drinks or not.
11. a) It is impossible for me to resist drinking if I am at a party where others are drinking.
    b) When I am at a party where others are drinking, I can avoid taking a drink.
12. a) Those who are successful in quitting drinking are just plain lucky.
    b) Quitting drinking depends upon lots of effort and hard work (luck has little or nothing to do with it).
13. a) I feel powerless to prevent myself from drinking when I feel anxious or unhappy.
    b) If I really wanted to, I could stop drinking.
14. a) I cannot feel good unless I am drinking.
    b) It is easy for me to have a good time when I am sober.
15. a) As far as drinking is concerned, most of us are victims of forces we can neither understand nor control.
    b) By taking an active part in our treatment programs, we can control our drinking.
16. a) I feel completely helpless when it comes to resisting a drink.
    b) I have control over my drinking behavior.
17. a) It is impossible for some people to ever stop drinking.
    b) if people want to badly enough, they can change their drinking behavior.
18. a) It is difficult for alcoholics to have much control over their drinking.
    b) With enough effort we can lick our drinking.
19. a) If someone offers me a drink, I cannot refuse him.
    b) I have the strength to refuse a drink.
20. a) Sometimes I cannot understand how people can control their drinking.
    b) There is a direct connection between how hard people try and how successful they are in stopping their drinking.

21. a) Once I start to drink I can't stop.
    b) I can overcome my urge to drink.
22. a) I just cannot handle my problems unless I take a drink first.
    b) Drink isn't necessary in order to solve my problems.
23. a) Most of the time I can't understand why I continue to drink.
    b) In the long run, I am responsible for my drinking problems.
24. a) I have no will power when it comes to drinking.
    b) If I make up my mind, I can stop drinking.
25. a) Drinking is my favorite form of entertainment.
    b) it wouldn't bother me if I could never have another drink.

APPENDIX D

The Alcohol Abstinence Self-Efficacy Scale (AASE)

Please rate how tempted you would feel to drink in the following situations using the scale from 1 ("not at all tempted") to 5 ("extremely tempted"):

	Not At All Tempted				Extremely Tempted
1. When I am feeling angry inside.	1	2	3	4	5
2. When I sense everything is going wrong for me.	1	2	3	4	5
3. When I am feeling depressed.	1	2	3	4	5
4. When I feel like blowing up because of frustration.	1	2	3	4	5
5. When I am very worried.	1	2	3	4	5
6. When I see others drinking at a bar or at a party.	1	2	3	4	5
7. When I am excited or celebrating with others.	1	2	3	4	5
8. When I am on vacation and want to relax.	1	2	3	4	5
9. When people I used to drink with encourage me to drink.	1	2	3	4	5
10. When I am being offered a drink in a social situation.	1	2	3	4	5
11. When I have a headache.	1	2	3	4	5
12. When I am physically tired.	1	2	3	4	5
13. When I am concerned about someone.	1	2	3	4	5
14. When I am experiencing some physical pain or injury.	1	2	3	4	5
15. When I dream about taking a drink.	1	2	3	4	5
16. When I am in agony because of stopping or withdrawing from alcohol use.	1	2	3	4	5
17. When I have the urge to try just one drink to see what happens.	1	2	3	4	5
18. When I am feeling a physical need to craving for alcohol.	1	2	3	4	5
19. When I want to test my willpower over drinking.	1	2	3	4	5
20. When I experience an urge or impulse to take a drink that catches me unprepared.	1	2	3	4	5

Now please rate how confident you would feel to NOT drink in the following situations using the scale from 1 ("not at all confident") to 5 ("extremely confident"):

	Not At All Confident				Extremely Confident
1. When I am feeling angry inside.	1	2	3	4	5
2. When I sense everything is going wrong for me.	1	2	3	4	5
3. When I am feeling depressed.	1	2	3	4	5
4. When I feel like blowing up because of frustration.	1	2	3	4	5
5. When I am very worried.	1	2	3	4	5
6. When I see others drinking at a bar or at a party.	1	2	3	4	5
7. When I am excited or celebrating with others.	1	2	3	4	5
8. When I am on vacation and want to relax.	1	2	3	4	5
9. When people I used to drink with encourage me to drink.	1	2	3	4	5
10. When I am being offered a drink in a social situation.	1	2	3	4	5
11. When I have a headache.	1	2	3	4	5
12. When I am physically tired.	1	2	3	4	5
13. When I am concerned about someone.	1	2	3	4	5

APPENDIX E

IRB Approval (see attached)

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

January 23, 2012

Michelle Linquist
102 Chelsea Court
Folsom, CA 95630

Protocol #: P1211D02
Project Title: *Locus of Control, Self-Efficacy, and Spirituality among Members of Alcoholics Anonymous*

Dear Ms. Linquist:

Thank you for submitting your application, *Locus of Control, Self-Efficacy, and Spirituality among Members of Alcoholics Anonymous*, for expedited review to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB appreciates the work you and your advisor, Dr. Cary Mitchell, completed on the proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. As the nature of the research met the requirements for expedited review under provision Title 45 CFR 46.110 (Research Category 7) of the federal Protection of Human Subjects Act, the IRB conducted a formal, but expedited, review of your application materials.

I am pleased to inform you that your application for your study was granted **Full Approval.** The IRB approval begins today, **January 23, 2012,** and terminates on **January 22, 2013**. In addition, your application to waive documentation of informed consent, as indicated in your **Application for Waiver or Alteration of Informed Consent Procedures** form has been **approved.**

Please note that your research must be conducted according to the proposal that was submitted to the GPS IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For ***any*** proposed changes in your research protocol, please submit a Request for Modification form to the GPS IRB. Please be aware that changes to your protocol may prevent the research from qualifying for expedited review and require submission of a new IRB application or other materials to the GPS IRB. If contact with subjects will extend beyond **January 22, 2013**, a **Continuation or Completion of Review Form** must be submitted at least one month prior to the expiration date of study approval to avoid a lapse in approval.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to "policy material" at http://www.pepperdine.edu/irb/graduate/).

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval. Should you have additional questions, please contact me. On behalf of the GPS IRB, I wish you success in this scholarly pursuit.

Sincerely,

Yuying Tsong

Yuying Tsong, Ph.D.
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cc: Dr. Lee Kats, Associate Provost for Research & Assistant Dean of Research, Seaver College
Ms. Alexandra Roosa, Director Research and Sponsored Programs
Dr. Yuying Tsong, Interim Chair, Graduate and Professional Schools IRB
Ms. Jean Kang, Manager, Graduate and Professional Schools IRB
Dr. Cary Mitchell
Ms. Cheryl Saunders